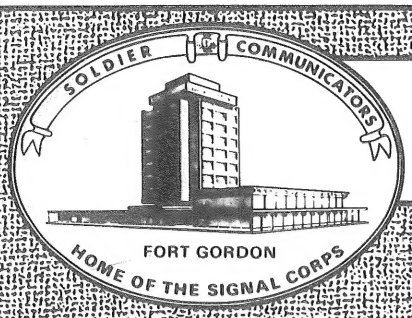

UNITED STATES ARMY
SIGNAL SCHOOL
FORT GORDON, GEORGIA

SIGNAL SUBCOURSE 068

DIVISION SIGNAL ORDERS AND REPORTS

SSO 068 7

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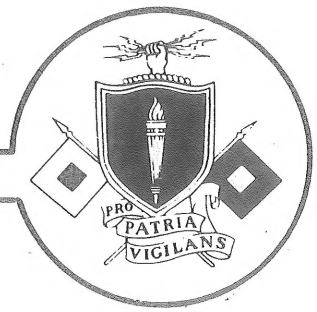


SIGNAL SUBCOURSE 068
DIVISION SIGNAL ORDERS AND REPORTS

INTRODUCTION

Can you imagine our situation if we did not prepare and maintain appropriate records and reports? Without records and reports, commanders and their staffs would be in the dark as to what their units were doing and how they were performing. Thus, appropriate plans, records, and reports, properly prepared and maintained, are essential in providing information required by commanders, their staffs, and by higher and lower headquarters. Also, the effectiveness of the Tactical Communications-Electronic Systems is dependent on complete information in relation to current operational status and availability of personnel and equipment. This provides the means to evaluate systems performance and meet additional operational requirements. This is accomplished using certain records and reports that must be readily available and updated periodically.

In this subcourse you will be exposed to many details that affect, either directly or indirectly, the preparation of orders and instructions that are to set forth the details of tactical operations and administrative actions in the field. These orders and instructions, which may be written or verbal, are issued to provide a coordinated plan in carrying out the commander's plan of action to accomplish the command mission. This subcourse will also discuss and describe the various records and reports that are necessary in the operation of C-E systems.

This subcourse consists of four lessons and an examination, as follows:

Lesson 1. Command and Staff Relationship.

Lesson 2. Communications-Electronics Orders.

Lesson 3. Communications-Electronics Instructions.

Lesson 4. Communications-Electronics Records and Reports.

Examination

Credit Hours: 10

GENERAL INSTRUCTIONS

Each lesson in this subcourse is divided into sections and contains study review exercise. The exercises will provide you with a review of key points in the lesson. After studying the text in the section, read each exercise, fill in the blanks with

correct word(s), select correct multiple choice or provide correct solution that best completes the statement or answers the question. Upon completion of the exercise compare your answers with solutions at the end of each lesson.

You are encouraged to complete this subcourse as soon as possible; there is no specific limitation on the time you may spend on any lesson or on the examination. When you have completed all lessons and study review exercises, take the examination.

Texts and Materials Furnished:

1. Subcourse Booklet SSO 068-7

2. IT 0001, Tactical Signal Center Operations, Symbols, Diagrams and Records for Circuit and Systems Planning, Feb 1977.

3. Examination and punch card.

LESSON 1

COMMAND AND STAFF RELATIONSHIP

SCOPE	Purpose of the staff; staff structures; staff procedures and coordination.
CREDIT HOURS	2
TEXT ASSIGNMENT	Attached memorandum, para 1-1 through 1-11, and IT 0001.
MATERIALS REQUIRED	None
SUGGESTIONS	Retain lessons for open book examination.

LESSON OBJECTIVES

The student will be able to:

1. Know the importance of good command and staff relationship of a unit.

2. Be familiar with the types of staff groups and their functions.

3. Understand the staff procedures and five broad function areas.

4. Be familiar with staff coordination and the four methods used to facilitate coordination.

5. Know the sequence of command and staff actions.

ATTACHED MEMORANDUM

Section 1 COMMAND AND STAFF RELATIONSHIP

1-1 PURPOSE OF THE STAFF

The purpose of this lesson is to provide you with the necessary information about command and staff relationships. When discussing the communications-electronics operations, orders, records, and reports contained in this subcourse, you will see that much planning and coordination must take place between the commander and his staff in developing plans and issuing orders to accomplish the command mission. The discussion of this subject matter is necessary for a better understanding of the importance of accurate and timely preparation of C-E estimates, plans and orders, and maintenance of good records and reports.

a. A good command-staff relationship is essential to any organization and operation. A commander who organizes and utilizes his staff properly, and a staff which works well together and supports the commander form an unbeatable combination. The functions of the staff are continuous, and staff members must adapt to meet any situation. The end product of the staff is a presentation of a coordinated solution to the commander which requires only his approval or disapproval.

b. Organization of the Staff. In organizing his staff the commander applies the organizational principles of: unit of command and direction, span of control, delegation of authority, and grouping of compatible and related activities. He organizes his staff in accordance with the complexity of current operations. He depends upon his staff to develop the details and take necessary actions to present him with coordinated solutions to problems. Therefore, an effective staff provides him with more time to concentrate on areas of his command that require his personal attention, and to plan more effectively for operations.

c. Features of the Staff.

(1) The staff is not a part of the chain of command. The commander delegates more authority to, and relies more heavily on, a staff that is highly trained and experienced--one that fully understands his policies. A staff can develop this state of efficiency through stability, cooperation, and team effort.

(2) Staff officers are assigned specific areas of responsibility. Staff officers must be thoroughly familiar with the capabilities and limitations of the subordinate units. A staff officer has five broad functions: he provides information; he makes estimates; he make recommendations; he prepares

plans and orders; and he supervises the execution of orders. A staff officer must possess initiative, ambition, judgement, ability to recognize and evaluate events that are critical to the success of the unit, and ability to work as a team member. He must be resourceful and imaginative in anticipating the needs of the command.

(3) A staff officer, when presenting information or a recommendation, must be frank and honest. He must be able to speak and write efficiently. He must present his facts clearly, and he must insure that his material is based on facts of reasonable assumptions. He should be tactful and act with reserve and good judgement, but he should not be a "yes man." The staff officer must willingly accept responsibility, must loyally support the commander's policies and decision, and must constantly strive to improve the efficiency of the unit.

LESSON 1 REVIEW EXERCISE 1

These exercises will provide you with a review of key points in lesson text. If you are unable to complete an item, return to the lesson material and read the portion of the lesson that pertains to that item.

Complete items 1 through 3.

1. What are the five broad functions performed by a staff officer?

a. _____

b. _____

c. _____

d. _____

e. _____

2. The staff is not a part of the chain of command.

a. True. b. False.

3. The end product of a well organized and efficient staff is a presentation of a coordinated solution to the commander which requires:

a. only his signature on the operations order.

b. only his approval or disapproval.

c. only his signature for the execution of orders.

d. his decision to determine if a staff study should be made of the situation.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 1, SOLUTION SHEET PAGE 104 AND MAKE NECESSARY CORRECTIONS.

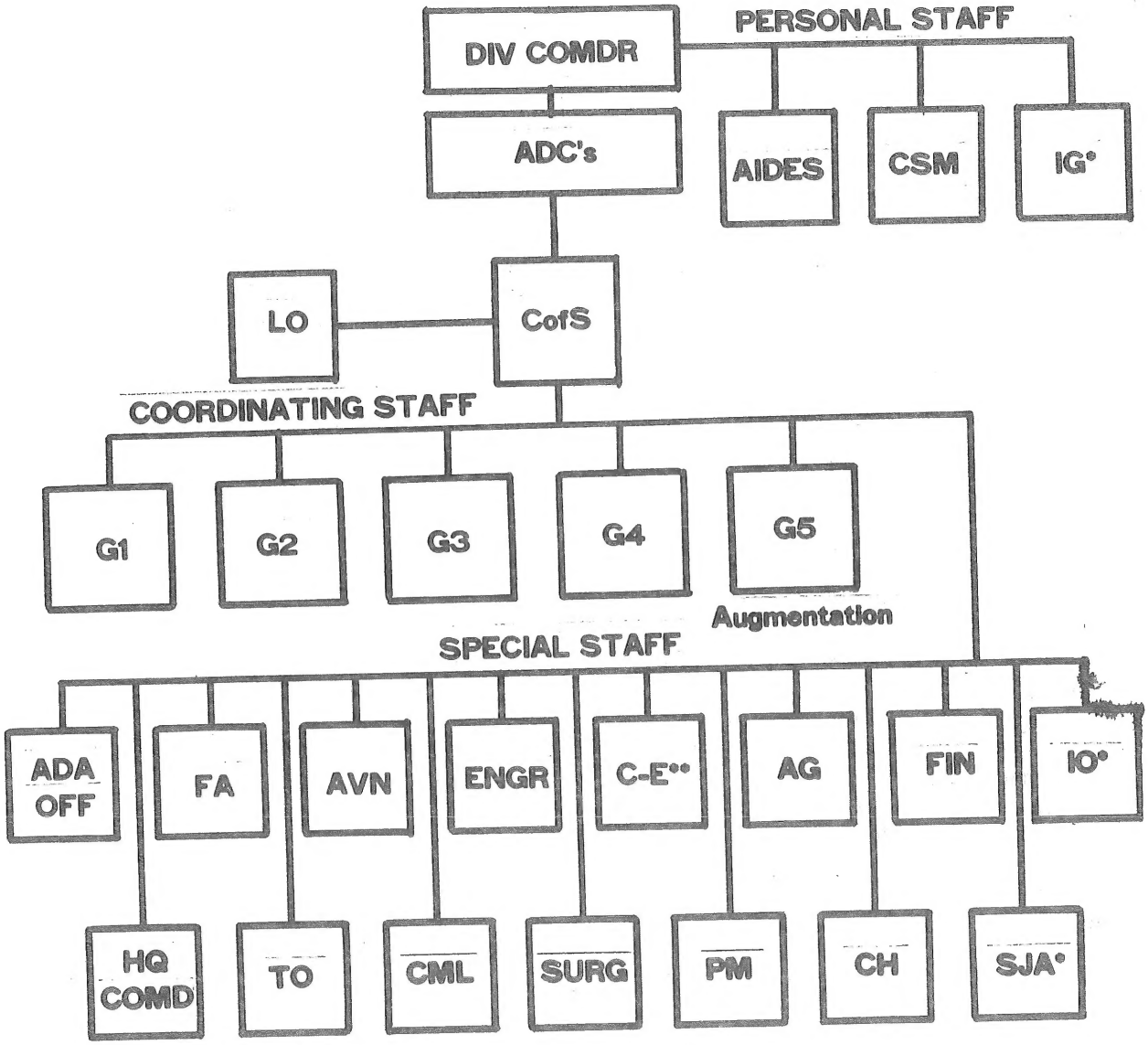
Section II STAFF STRUCTURE

1-2 TYPES OF STAFF GROUPS

When looking at the different type staff groups, we find there are three types: the coordinating, the special, and the personal staff. See Figure 1-1 for the different staff groups. At battalion and group level, you will find only the coordinating and special staffs. At units commanded by a general officer, you will find all three staff groups. We will now discuss the three types of staff.

a. Personal Staff and Duties of its Members. The personal are such staff officers as the commander elects to coordinate and administer directly to assist him in meeting his personal needs and in special function areas. Special function areas, for example, can be the areas of the Staff Judge Advocate (SJA), Inspector General (IG), and Information Officer (IO). Regardless of the commander uses in dealing with the personal staff members, the Chief of Staff (or in units below division, the Deputy Commander or Executive Officer) should be kept informed of their activities except for confidential subjects which the commander indicates are strictly between himself and the personal staff officer concerned. At times, a staff officer may be on the personal staff for part of his activities and either a member of the coordinating, or special staff group for the remainder of his activities. The commander's aides are members of his personal staff. Also, the Sergeant Major is considered a member of the personal staff and is the senior enlisted assistant to the commander. He assists the commander in matters involving noncommissioned officers and enlisted men, and often assists the Adjutant in administrative matters. He maintains close and continuous contact with First Sergeants and with the Division Sergeant Major.

b. Special Staff and Duties of its Members. The special staff constitutes all staff officers having duty at a headquarters and not included in the coordinating and personal staff. The special staff includes certain technical specialists and heads of services, e.g., Communications-Electronics Officers, Chemical Officer, etc. Special staff officers are the technical advisers to the commander and are the coordinators of all activities pertaining to their specialty field. A special staff officer may also be a unit commander, e.g., the Signal Battalion Commander or Signal Brigade Commander. The profile of the special staff structure will change from unit to unit, e.g., battalion, brigade, division, and corps. This is due to the desires and needs of the commander, and/or the type, size, and mission of the unit. At division and higher there are special staff officers not normally found below division. The relationship can also be applied to the Signal Brigade and the Signal Battalion. The additional special staff officers at the higher



NOTES:

*May also serve as both a special and personal staff officer.

**Division C-E officer (DCEO) is also the signal battalion commander (dual hat); also there may be others serving in dual hat capacity.

Figure 1-1 Infantry division command and staff organization.

headquarters are to assist the commander in special areas.

c. Coordinating Staff and Duties of its Members. The coordinating staff is a group of officers specifically ordered or detailed to asssist the commander in planning, coordinating, and supervising operations. At division or higher, it is called the general staff. The staff consists of four or more principal functional sections: Personnel (G1 or S1); Military Intelligence (G2 or S2); Operations and Training (G3 or S3); Logistics (G4 or S4); and in Division or higher, Civil Affairs (G5). A typical division signal battalion coordinating staff of their duties and responsibilities are described below. See Figure 1-2 for signal battalion command and staff organization.

(1) Executive Officer. The Executivie Officer is the principal assistant and adiviser to the Battalion Commander. He supervises the details of operations and administration, freeing the commander to devote maximum time to new or critcal problems as DCED. The Executive Officer keeps abreast of the logistical and tactical situations and plans, and is prepared to assume command in the absence of the commander. The Executive Officer--

(a) directs and coordinates the efforts of staff and headquarters personnel and assigns tasks to staff members.

(b) represents the commander during his absence.

(c) recommends security and defensive measures for installation of Battalion Headquarters.

(d) security and defensive measures for installation of battalion headquarters.

(e) supervises and plans for displacement of the battalion headquarters including reconnaissance for new locations and alternate areas.

(f) plans and directs rear area protection and area damage control activites of the battalion.

(2) The S1, Adjutant. The Battalion Adjutant is responsible for the administration of the headquarters and for coordinating the administration of the signal units organic and attached to the battalion. The Adjutant--

(a) supervises administrative personnel and personnel procedures; transfers, assignments, promotions and demotions, and classification of personnel. (Certain of these actions are handled by the Adjutant General Company and the Finance Company of the division).

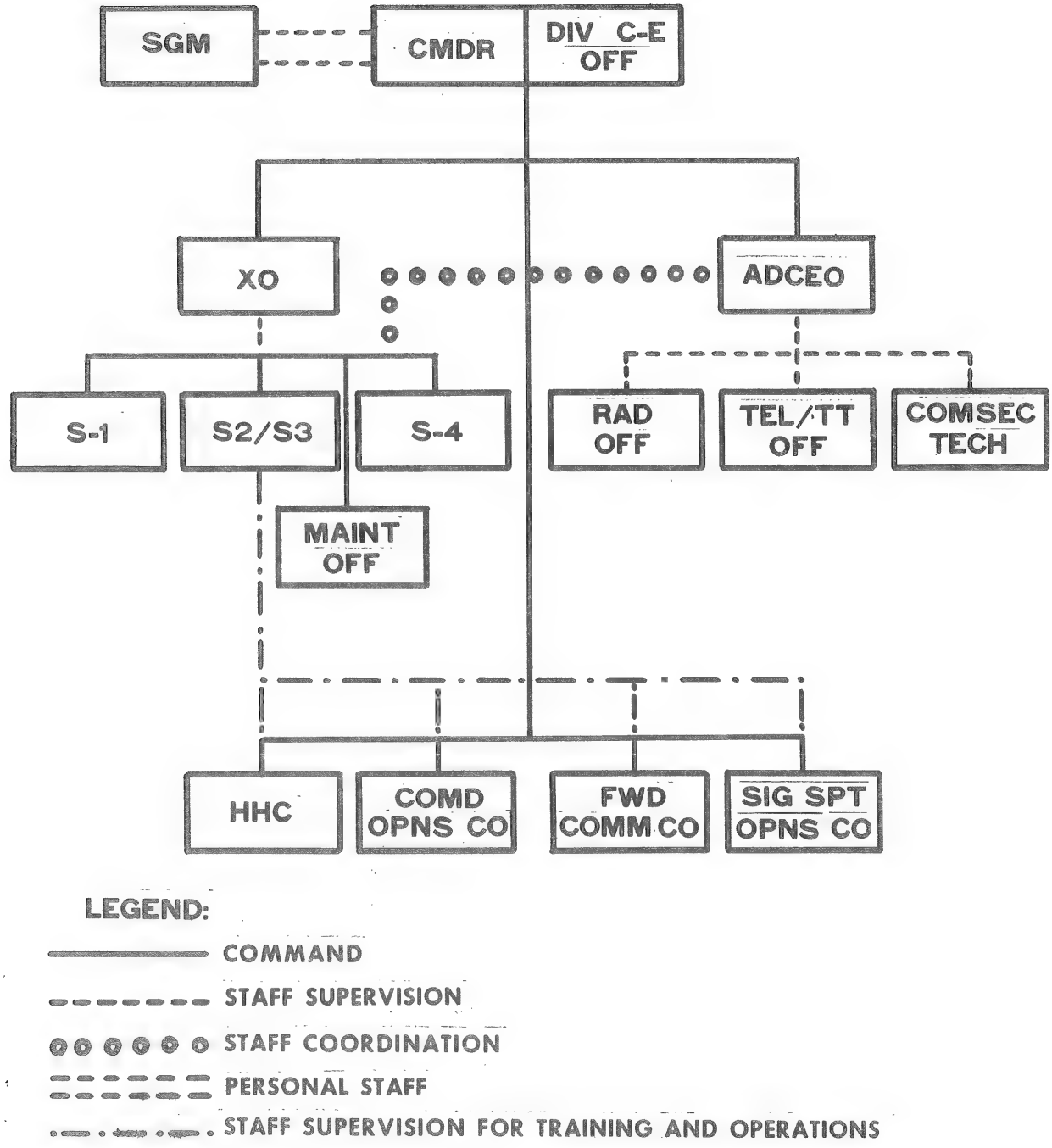


Figure 1-2. Division signal battalion command & staff organization.

adquarters are to assist the commander in special areas.

c. Coordinating Staff and Duties of its Members. The coordinating staff is a group of officers specifically ordered or detailed to asssist the commander in planning, coordinating, and supervising operations. At division or higher, it is called the general staff. The staff consists of four or more principal functional sections: Personnel (G1 or S1); Military Intelligence (G2 or S2); Operations and Training (G3 or S3); Logistics (G4 or S4); and in Division or higher, Civil Affairs (G5). A typical division signal battalion coordinating staff of their duties and responsibilities are described below. See Figure 1-2 for signal battalion command and staff organization.

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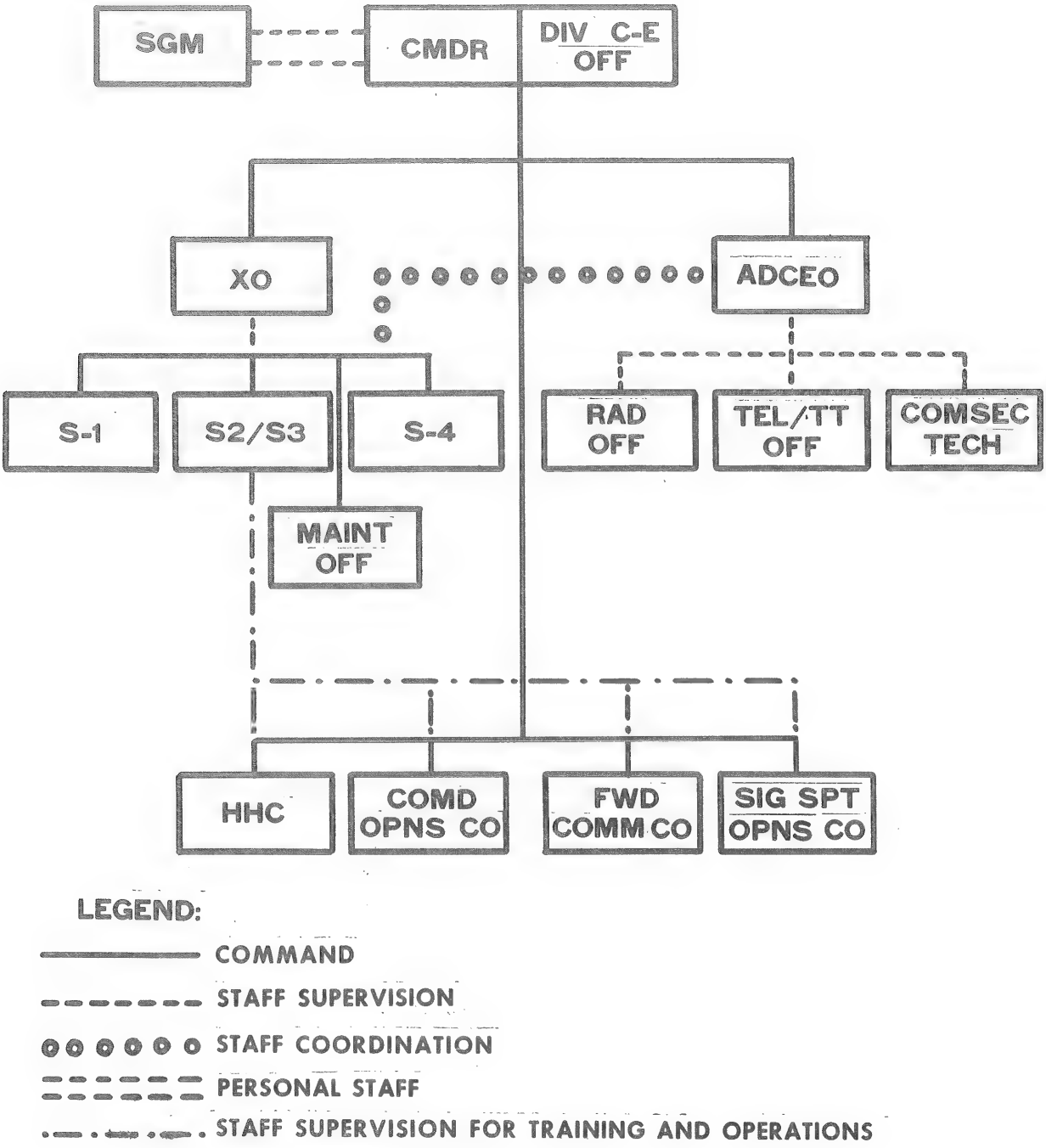


Figure 1-2. Division signal battalion command & staff organization.

(b) processes recommendations for citations, honors, and awards; supervises the leave program; coordinates religious services and athletic programs.

(c) prepares instructions relating to records and reports.

(d) receives, processes, and assigns personnel replacements for the battalion.

(e) supervises the arrangement and movement of Battalion Headquarters.

(f) supervises postal services.

(g) publishes and distributes administrative orders and directives.

(h) insures that the required publications and forms are available.

(i) maintains the unit journal, policy files, and radiation exposure data.

(3) The S2/S3, Operations and Intelligence Officer. The S2/S3 has staff responsibility in the areas of organization, operations, training, intelligence, and security. He is assisted in these responsibilities by the operations and intelligence section (supervised by the Asssistant S3). The S2/S3--

(a) continually reviews organization structure; recommends changes to, or augmentation to the signal battalion organization.

(b) allocates battalion resources for mission accomplishment.

(c) insures battalion operation readiness.

(d) keeps current on the status of critical MOS's in the battalion.

(e) coordinates with the S1 on personnel and with the S4 on logistics.

(f) coordinates assignment of unit mission and employment.

(g) prepares signal estimates, C-E Annex to the command operations order, signal plans, diagrams, and SOP's.

(h) recommends the general location of the CP.

(i) supervises preparation of the Battalion Training Program and insures that it is followed.

(j) supervises the development of training facilities and distribution of training aids.

(k) conducts FTX and CPX training and maintains the training records and reports.

(l) Disseminates intelligence information to battalion units.

(m) obtains and distributes maps.

(n) supervises physical security.

(4) The S4, Logistics Officer. The S4 has staff responsibility for planning, coordinating, and supervising the logistical operations and facilities. His major areas of responsibility are supply transportation, and maintenance. The S4--

(a) advises the Battalion Commander on the status of supply.

(b) prepares logistical estimates and appropriate portions of SOP's, plans, and orders.

(c) assures that battalion units are provided rations, water, POL, organizational and individual supplies, equipment, and ammunition.

(d) supervises all supply activities to include operation of unit supply functions.

(e) prepares plans for unit area damage control in coordination with the executive officer.

(f) supervises the logistics personnel of the administration and logistics section.

(5) Maintenance Staff Officer. The maintenance staff officer is responsible to the commander for the overall equipment maintenance posture of the command. The maintenance officer--

(a) supervises the direct support maintenance of C-E equipment.

(b) supervises organizational maintenance of all wheeled vehicles, power generator, and C-E equipment.

(c) supervises preparation of all required records and reports in support of the command equipment maintenance program.

(d) coordinates closely with all other staff officers and commanders of subordinate units to enhance the command equipment maintenance and training program.

(e) advises the commander on all matters pertaining to maintenance of C-E equipment, wheeled vehicles, and power generators.

LESSON 1 REVIEW EXERCISE 2

Complete items 1 through 5.

1. What are the three types of staff groups?

a. _____

b. _____

c. _____

2. Which of the following staff officers would not be on the division commander's personal staff?

a. Inspector General.

b. Staff Judge Advocate.

c. Information Officer.

d. Chaplain.

3. The Command Sergeant Major is considered a member of the division commander's personal staff.

TRUE FALSE

4. What officer in the Division Signal Battalion represents the commander (DCEO) during his absence?

a. Operations S3.

b. Executive.

c. Radio Officer.

d. Command Operations Company Commander.

5. What section of headquarters and headquarters company of the Division Signal Battalion is responsible for obtaining maps for the battalion?

a. S1.

b. S2/S3.

c. S4.

d. Div C-E Officer Section

CHECK YOUR ANSWERS WITH LESSON EXERCISE 2 SOLUTION SHEET PAGE 104.

Section III STAFF PROCEDURES

1-3 GENERAL.

You learned earlier in this lesson that the primary responsibility of each staff officer is to assist the commander in accomplishing the mission of the command. The staff officer follows standard procedures and techniques to accomplish this. The use of effective staff procedures speeds up staff actions, and improves the quality of assistance rendered by the staff. It helps insure that all matters are properly evaluated and included in sound, completed staff actions. Staff functions are categorized into five broad areas:

a. Information. The staff collects, collates, evaluates, and transmits the fragments of information that flow continuously into the headquarters. In collecting the latest information and transmitting it promptly to the commander and other members of the command who need it.

b. Estimates. The staff prepares estimates to assist the commander in his examination of all factors influencing contemplated courses of action. Adequate plans hinge on early and continuing estimates by staff officers.

c. Recommendations. Staff officers made recommendations to assist the commander in reaching decisions and establishing policies. Staff officers also offer recommendations to one another and to subordinate commanders. In the latter case, recommendations are for the purpose of assistance only and do not carry command authority.

d. Plans and Orders. The staff analyzes the commander's policies to insure full understanding and converts them into plans and orders for implementation. Orders are issued in the commander's name if the commander has delegated the authority to the staff. The staff also prepares plan based upon anticipated events or conditions. An example of a plan and order would be the Communications-Electronics Annex to the command operation order, prepared by the DCEO and his staff. This C-E Annex will be discussed fully in another lesson in this subcourse.

e. Execution of Plans and Orders. The staff assists the commander by insuring that subordinate elements carry out the commander's plans and orders. This relieves the commander of much detail, keeps the staff apprised of the situation, and provides the staff with information it needs for reports.

1-4 COMPLETED STAFF ACTIONS.

a. During the process of completing a staff action, the problem is studied, researched, and discussed prior to presenting

the solution to the commander. The solution is presented in a form that requires only his approval or disapproval.

b. Effective staff work is accomplished through anticipatory planning and sound staff procedures. It requires a continual exchange of pertinent information between staff sections. As the staff becomes more experienced and better trained, it works more closely as a team to provide completed staff actions to the commander. Completed staff action usually makes more work for the staff officer, but it gives the commander more freedom. It protects him from partially developed ideas, voluminous memorandums, and incomplete presentations. Figure 1-3 is a checklist to assist the staff officers in their staff work.

COMPLETED STAFF WORK	
COMMANDER	STAFF OFFICER
Know the problem.	Work out all details completely.
Assign the problem and request a solution in such a way that completed staff work is readily possible.	Consult other staff officers. Study, write, and rewrite. Present a single, coordinated, proposed action. Do not equivocate.
Make one individual responsible to you.	
State the problem to him clearly and precisely; explain reasons and background; limit area to be studied.	Do not present long memoranda or explanations. Correct solutions are usually recognizable.
Give the individual the advantage of your knowledge of the problem.	When you present your solution, make sure that it is in such form that only approval or disapproval is required by the commander.
Set a time limit or request the assignee to estimate a completion date. Insure that you are available for discussion as work progresses. Adequate guidance eliminates wasted effort and assures completed staff work.	When you are ready to submit your solution, ask yourself this question, "If I were the commander, would I sign this paper and stake my professional reputation on its authenticity?" If you would not, take it back and work it over; it is not yet completed staff work.

Figure 1-3. Checklist for Completed Staff Work.

1-5 STAFF COORDINATION

Staff coordination means staff teamwork. It includes the action required within the staff to insure that plans and orders are executed as the commander desires. Most actions have an overlap of interest that affects more than one staff section. Therefore, a close personal relationship between staff sections is mandatory. Staff coordination must insure that staff officers work in harmony or agreement in carrying out plans. Conflicts and duplications are avoided by making necessary adjustments before orders are implemented. Personal conflicts must never adversely affect staff actions. Staff actions are examined by all interested staff officers to adjust and resolve conflicts. Combat operations generally require rapid coordination and reaction time; thus, the staff must respond with sound coordination procedures. Each staff officer must know the responsibilities of all staff sections. This is essential in determining the requirements of other staff members and to facilitate coordinated action. Staff officers must habitually "talk to each other," and freely exchange information and ideas. This is the key to effective staff work. All officers should be informed and up-to-date on significant projects.

1-6 PROCEDURES FOR STAFF COORDINATION.

Standardized methods or procedures are established within a unit to facilitate coordination. The internal arrangement of the headquarters is established to receive and route incoming messages, routine, or special action papers to insure quick delivery and speedy reaction time. Related operations are located adjacent to each other to provide more convenient working conditions. Internal communications are planned to provide an easy, rapid means of contact. Staff officers are assigned specific responsibilities. This assists in the routing of necessary action, provides basic knowledge of other officers' needs and the type of information each can best provide. A system of formal or informal reports is established to provide a prompt means of exchanging information as a result of staff officer inspections or visits. Direct contact with staff sections is necessary. Coordination is insured by use of formal or informal staff actions which are:

a. Conferences. Conferences are used to facilitate coordination between interested staff sections.

b. Visits. Staff officers visit units to obtain information for the commander, observe execution of orders, and assist subordinate commanders. Normal courtesy is practiced during visits; call on the commander initially, state purpose of the visit, report facts noted, and what the staff officer will report upon return to the headquarters. After the visit, the

staff officer reports the significant facts to the commander and staff as appropriate.

c. Inspections. The commander and staff officers conduct inspections to ascertain the readiness condition of the unit. Various methods or techniques may be used, but in each case the subordinate commander is furnished results of the inspection. Results may then serve as the basis for corrective action.

d. Briefings. Briefings are an excellent means of keeping the commander and staff informed of the situation and of problems facing the command. Each staff officer must be prepared to brief on the activities of his section at any time, or contribute to a command-type briefing.

1-7 INDIVIDUAL STAFF ACTION

Many daily routine actions handled within a staff do not require the formality of the command and staff planning described in subsequent paragraphs. The unit SOP normally prescribes required actions and designates primary staff responsibility. Conflicts in overlapping interests that produce disagreement between or among staff officers will be resolved by the executive officer or commander. When a staff officer is given primary responsibility for a project and is designated "Action Officer," he must fully coordinate with other interested staff sections in developing the proposed responses. The final product of this coordination is a staff recommendation. Action officers coordinate informally and use any appropriate means, such as telephone calls, conferences with interested persons, or informal routing or action papers through the headquarters. The value of personal meetings with other staff officers cannot be overemphasized. They provide the Action Officer with a better knowledge of his subject, permit the exchange of information, and generally produce more timely and effective results.

LESSON 1 REVIEW EXERCISE 3

Complete items 1 through 6.

1. Staff functions are categorized into what five broad areas?

a. _____

b. _____

c. _____

d. _____

e. _____

2. After a staff action has been completed and prior to presenting the solution to the commander, the solution should be presented in a form that requires only his _____.

3. Most actions of the command have an overlap of interest that affects more than one staff section. Therefore, a close personal relationship between staff sections is mandatory.

a. TRUE. b. FALSE.

4. Name the four methods used by the commander and staff sections to exchange information and to solve problems.

a. _____

b. _____

c. _____

d. _____

5. Which of the following is the best means of keeping the commander and staff informed of the situation and various problems facing the command?

a. Inspections. c. Conferences.

b. Written reports. d. Briefings.

6. When a staff officer is given primary responsibility for a project he is normally designated as the _____.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 3 SOLUTION SHEET PAGES 104 AND 105.

1-8 SEQUENCE OF COMMAND AND STAFF ACTION

The commander is responsible for deciding how the elements of his command will be employed to accomplish his mission. The staff assists the commander in arriving at and executing his decision. Routine decisions may be made by the staff within the authority delegated to them by the commander. Operational decisions are of such fundamental importance that the commander must personally influence the preparation of orders implementing these decisions. The sequence of command and staff actions from mission assignment to mission accomplishment is shown in

Figure 1-4. It should be noted that this sequence is followed after the mission is established. Figure 1-4 is an outline of the sequence to be followed in an ideal situation, and following a discussion on the major points of the sequence.

a. Mission Analysis. Though estimating and planning are continuous in nature, they are put more into focus upon receipt of a mission. The commander, assisted by his staff, analyzes the mission to insure it is thoroughly understood. The mission is analyzed in light of the situation confronting the commander and his knowledge of the higher commander's plan and concept. The basic purpose of mission analysis is to determine "what" has to be done before determining "how" best to accomplish the mission. Determining specified and implied tasks to be accomplished and establishing the sequence or priority in which tasks are to be performed are the most important aspects during this initial step.

b. Preparation and Issuance of Orders. The S3 has primary staff responsibility for the preparation of the operation plan and order. Certain information is furnished the S3 by other staff officers for inclusion in the plan and order. The operation plan and order is presented to the commander for his approval. After approval, the S3 supervises final preparation of the plan or order, authenticates copies, and insures proper distribution if issued in written form.

PLANNING	
Staff Actions	Commander's Actions
Mission Received	
Information to Commander and staff sections.	Mission analysis and commander's planning guidance.
Staff estimates including recommendation.	Commander's estimate including decision.
Preparation of plans/ orders.	Commander's concept.
Issuance of plans/orders.	Approval of plans/orders.
Staff supevision.	Command supervision.
Mission Accomplished	

NOTES:

1. The above chart portrays the relative sequence of command command and staff actions as they normally occur upon receipt of a mission. Frequently, many of these actions are carried out concurrently. This sequence is a logical progression of actions involved in making and executing decisions. There is a mutual exchange of information between the commander and his staff and higher, lower, and adjacent units throughout the above sequence.

2. Steps are in relative time of occurrence.

Figure 1-4. Sequence of Command and Staff Actions.

At battalion level, oral orders are often used. Time permitting, written orders may be published to confirm or change the oral order or to serve official record purposes.

c. Execution and Supervision. After the order is issued, the commander, assisted by his staff, supervises its execution. The staff members assist the subordinate units wherever possible in carrying out the intent of the commander's orders.

d. Commander's Function. The extent to which each of the above steps (exclusive of the decision) will be performed personally by the commander depends on the time available, the size of the command, the situation, and the experience and training of the commander and the members of his staff.

1-9 APPLICATION OF THE SEQUENCE OF COMMAND AND STAFF ACTIONS.

The sequence shown in Figure 1-4 outlines a formal step-by-step procedure. It must be recognized, however, that the manner in which these steps are performed and their relationship to each other depends on many factors. The sequence describes a logical and systematic procedure to solve major problems. The very nature of the staff activities requires that many of the steps be acted upon concurrently by individual sections. Areas of interest between staff officers often overlap and require not only close coordination, but also mutual assistance. At battalion level, in particular, the sequence is applied on an informal basis. The time available, the experience of the commander and his staff, and the relative urgency of the situation may necessitate variations in the sequence. Nonetheless, the basic steps of the sequence of command and staff actions are employed to insure the best possible solution to operation problems.

1-10 RELATIONSHIP TO TROOP LEADING PROCEDURES.

The actions described above are applicable to all command levels which have a staff. These actions reflect the manner in which the staff functions with the commander to assist him in preparation, issuance, and execution of operational orders. Troop leading procedure is a logical sequence of actions and thought processes followed by the commander in developing and executing a tactical plan. The sequence of actions followed by a commander and his staff are integrated with the troop actions taken by commanders to employ their units in a tactical operation. Command and staff actions assist the commander in executing troop leading procedures. Command and staff actions are not, in themselves, troop leading procedures.

1-11 SUMMARY.

In this lesson we have discussed the position of command, the Chain of Command, C-E Operations, Command and Staff Relationship, the different staff groups, Staff Structure, Staff Duties and Responsibilities, and Staff Procedures.

It all boils down to this:

The commander is the commander by virtue of his rank and position. He alone is responsible no matter what. He may delegate authority but he cannot delegate responsibility. Command is exercised through the chain of command. It works from top to bottom, and from bottom to top. Operation is the act of carrying out a military mission and the related processes. To do this you must understand the mission, your capability and have a good idea of the enemy's capability, do adequate planning, and finally, get it all together to complete the mission. C-E

operation is no exception to the above. So, you must be well versed on C-E operations, C-E units and their mission, and C-E procedures and techniques to adequately perform your combat support role.

LESSON 1 REVIEW EXERCISE 4

Complete items 1 through 5.

1. What staff section has the primary responsibility for the preparation of the operation plan and order?

a. S1.

b. S2.

c. S3.

d. S4.

2. Basic purpose of command mission analysis is to determine "what" has to be done before determining "how" best to accomplish the mission.

a. True.

b. False.

3. What is the last sequence step taken by the commander and his staff after the order has been issued to subordinate units?

_____

4. The commander is the commander by virtue of his rank and position, to assist him in preparing plans and orders, he may delegate responsibility to his staff for this purpose.

a. True.

b. False.

5. In a tactical situation when time is limited, how are orders issued at battalion level?

_____

CHECK YOUR ANSWERS WITH LESSON EXERCISE 4 SOLUTION SHEET PAGE 105.

LESSON 2

COMMUNICATIONS-ELECTRONICS ORDERS

SCOPE	Types Orders, C-E Estimate and C-E Annex to Command Operation Order, and Signal Unit Operations Order.
CREDIT HOURS	2
TEXT ASSIGNMENT	Attached memorandum, para 2-1 through 2-10, and IT 0001.
MATERIALS REQUIRED	None
SUGGESTIONS	Retain lessons for open book examination.

LESSON OBJECTIVES

The student will be able to:

1. Be familiar with types of orders, preparation, and distribution.

2. Know the purpose and use of Communications-Electronics estimate and its contents.

3. Know the format and contents of the C-E Annex to the command operation order. Understand the use of appendixes, tabs, inclosures, and additions.

4. Be familiar with the signal unit operation order, when published, format and contents of the order.

ATTACHED MEMORANDUM

Section 1 ORDERS

2-1 GENERAL.

Before we discuss the various plans and orders used at division level, let us first define what an order is and the types of orders. Orders are communications, written, oral, or by signal, which convey instructions from a superior to a subordinate. For all practical purposes, the words "order," "directive," "instruction," and "command," are synonymous. An order is characterized by clarity, completeness, brevity, timeliness, content, preparation, format, and technique. An order is further characterized by recognition of subordinate commander's prerogatives, use of affirmative expressions, avoidance of meaningless and unnecessary expressions, and authoritative expressions. It is important to remember that clarity and completeness should not be sacrificed for brevity, and that orders are issued to allow sufficient time for planning and preparation. If an order is too detailed with too much information, important instructions may be lost in the mass of unimportant data. On the other hand, if the order is too brief, essential information may be omitted. The amount of information to be included in an order must be carefully determined.

a. Classes of Orders. When discussing orders, we think of them as falling into two general classes; routine and combat. Routine orders cover matters not connected with, or affected by, operations in the field. Routine orders include general and special, court-martial orders, bulletins, circulars, and memorandums. Although our everyday military world could not function without routine orders, combat orders are the ones we will be discussing in this lesson. Combat orders pertain to the operations of units in the field. They include operation orders, administrative orders, and letters of instructions. Further, you will see combat orders in the form of service support orders, fragmentary orders, warning orders, standing operating procedures (SOP), and directives. To give you a better understanding of the various types of orders and their meanings, explanation of these orders follow.

(1) Operation orders provide for coordinated action to carry out the decision of a commander in the conduct of an operation. The term "operation order" is general and includes both operational orders for the conduct of tactical operations and movement orders. Combat service support commanders also use operation orders to task their own units.

(2) Administrative/Logistics orders provide for coordinated combat service support for the command.

(3) Warning orders give preliminary notice of actions or orders that are to follow. These are usually brief oral or written messages.

(4) Fragmentary orders give extracts from more detailed orders or which change previous order. Like warning orders, these are usually brief oral (VOCO) or written messages.

b. Development of the Order. The development of the order follows the estimate of the situation and development of the plan. The order, initially, may be issued as a plan to become an order at some future time, either specific or as stated contingencies arise. You may say to yourself, "we don't always make an estimate or develop a plan before we develop and issue an order." Right, the estimate and plan are not always of the formal type, but we do estimate and plan before issuing an order. The type of order and time allowance are the governing factors. If the order is something more than the routine or the general everyday procedure type, and if time permits, a formal estimate of the situation is made and a formal plan is developed. On the other hand, if this is not the case, then the estimate of the situation and the plan development may be by a mental process. The spontaneous order or directive is an exception to this procedure. In the future, with thinking going toward small forces and rapid movement on the battlefield, the written formal order may be an exception. The operation order is developed and issued in a five-paragraph format. The command operation order is issued to direct the coordinate actions of all elements of the command in such a manner as to execute the decision of the commander and successfully accomplish the mission of the command. The Division C-E Officer is interested in all portions of the command operation order; however, he is particularly concerned with paragraphs 4 and 5 of the order. Paragraph 4 is the Service Support paragraph of the operation order. The C-E officer provides service support requirements for inclusion in this paragraph of the command operation order when a separate Administrative/Logistics order is not published. Paragraph 5 is the Command and Signal paragraph of the operation order. The Division C-E officer provides all C-E information for inclusion in this paragraph of the command operation order when a separate annex is not published. A C-E Annex (Example page 93 IT 0001) is published by the C-E officer and his staff when the C-E instructions are too voluminous to be disseminated in the command operation order. When it is necessary to publish an annex, the C-E officer--

(1) prepares the C-E Annex to govern the installation, operation, maintenance, and security of the Communications Systems.

(2) Provides Division G3 with manipulative electronic

deception (MED) portion of the tactical deception annex.

(3) coordinates with the electronic warfare/cryptologic officer (EWC) for the input to the EW Annex.

c. C-E Estimate and Plans. The C-E estimate of the situation which will be covered in the next section of this lesson is mentioned here to emphasize that it, in essence, is part of the order. Upon being assigned a mission, or upon deducing from the operation at hand that the unit has a mission, the Signal Unit Commander and his staff perform an estimate of the situation. The purpose of the estimate is to make a decision on how to accomplish the mission. The decision is the basis for the C-E plan. The C-E plan will be discussed in more detail further in this lesson.

d. Preparation and Distribution of Orders.

(1) Preparation. The preparation of the order is a logical and systematic procedure. It is the product of a coordinated effort by the commander and his staff. The ideal situation is to make a formal estimate of the situation, develop a formal plan, and follow with the order. Due to the type of operation, and time available, we may not always have the luxury of developing a textbook order. In a tactical environment, surprise is a key factor so we aren't going to sacrifice the element of surprise to mull over the estimate and plan before issuing the order. In this case, either the estimate or plan, or both, will be accomplished by the mental process.

(2) Distribution. It was stated earlier that one of the characteristics of the order is timeliness. In developing and distributing the order, consideration must be given to the time it takes the subordinate units to receive the orders and disseminate the instructions to the elements of the command. A distribution formula is included in standing operating procedures. G3 establishes distribution in coordination with other coordinating and special staff officers.

LESSON 2 REVIEW EXERCISE 1

Complete items 1 through 6.

1. A well prepared written order is characterized by its:

a. _____ e. _____

b. _____ f. _____

c. _____ g. _____

d. _____ h. _____

2. Bulletins, circulars, and memorandums are what class of orders?

a. Combat. c. Routine.

b. Technical. d. Special.

3. Assume your unit was operating in accordance with the command operation order, and some portion had to be modified in order to accomplish the mission, what type of order is used to change the previous order?

a. Fragmentary. c. Administrative/Logistics.

b. Direct order. d. Warning order.

4. What is the title of paragraph 4 of the Command Operation Order?

a. Execution. c. Command and Signal.

b. Service Support. d. Coordinating instructions.

5. The Division C-E Officer and his staff are required to prepare and publish a C-E Annex when the C-E instructions are too voluminous to be disseminated in the command operation order.

a. True. b. False.

6. How many numbered paragraphs are contained in the C-E Annex to the command operation order?

a. 3. c. 5.

b. 4. d. 6.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 1 SOLUTION SHEET PAGE 105 AND 106.

Section II COMMUNICATIONS-ELECTRONICS ESTIMATE

2-2 GENERAL.

In the many events of your everyday life you are continually making estimates -- maybe mental ones, but you do make them. Let's take your first act of the day which is the time to get up to get to work on time. You can decide on what time to be up by estimating how long it will take you to get dressed, eat breakfast, read the morning paper, start and warm up the car, and drive to work. After you have mentally run through the steps, you can decide with reasonable accuracy you should set the alarm to start your day. In the Army we do this. We make estimates to decide the best solution to problems. Whether it be a tactical unit or a support unit, the commander and his staff continually face problems that must be solved in order to meet mission requirements and win the battles. This is true whether it is a training mission or a combat mission. As a signal unit commander you are no exception. You and your staff must make estimates of the situation to find the best way to utilize available resources to support the mission.

a. The C-E Estimate. The C-E estimate is the tool or procedure you and your staff use to find the best way to accomplish a given mission. It is a problem-solving process that requires a systematic analysis of all essential data. No matter what the level of command, whether it be at battalion, division, or corps level, the procedure is the same. However, the details vary with the level and type of command. For example, at battalion and below, estimates are seldom recorded. Your estimate is as thorough as time and circumstances permit. You must update your estimates continuously as factors that affect operations are changed, as new facts are determined, as assumptions are replaced by facts or rendered invalid, or as changes to the mission are received or indicated.

b. The When, Where, and How Of the C-E Estimate. When your unit is assigned a mission, or when you deduce one from your understanding of the situation, you call your staff together to brief them on the mission. You present the mission, explain as much in detail as possible, and spell out all expressed or implied tasks contained in the mission. At this time you question your staff on facts bearing on the mission at hand to assist you in making your initial estimate. Your estimate begins at the moment there is a mission, whether assigned or deduced, and it begins for the staff when you present the mission to them. The estimate is a continuous procedure until the staff has coordinated its efforts, presented you with a recommendation, you make your decision, and the estimation is formulated into a plan or order. You and your staff accomplish your estimates by considering all the circumstances affecting the situation, and analyzing and evaluating possible courses of action. The preparation of

of the estimate follows a five-step process:

(1) Know the problem.

(2) Assemble all the facts that bear on the problem, consider opposing conditions, and determine possible solutions.

(3) Analyze each possible solution to determine its advantages and disadvantages.

(4) Compare the possible solution and select the one that best solves the problem.

(5) Translate the selected solution into a decision (if it's the commander's estimate) or recommendation (if it's the staff's estimate).

c. The C-E Estimate Format. Figure 1, Page 88 IT 0001 depicts the format of the signal estimate. The format is an aid to assist you and your staff in applying thoroughness, clarity, judgment, logic, and professional knowledge to the situation and in reaching a sound decision. The format is an aid, not a formula. It is logical but not rigid; thus, the paragraphs do not have to be completed in sequence. The format is a valuable checklist to insure consideration of significant aspects, and it serves as a base or a reference point for updating the estimate. You begin your estimate as soon as a mission is assigned your unit, or when you anticipate a mission from what you know of the situation. Remember, your estimate is as thorough as time and circumstances permit. The amount and nature of detail considered will vary with the level and type of command. You, assisted by your staff, study the mission to insure that all tasks to be performed are understood. Based upon this study, you issue planning guidance to your staff and continue with your own estimate. From the time you study the mission until the time you make your decision as to the scheme of maneuver to be employed, your estimate is a logical flow of information and reasoning process. Information, conclusions, and recommendations furnished by your staff will assist you tremendously in making your decision. The format for the staff estimate is the same as that used for your (the commander's) estimate. This is the same five paragraphs shown in Figure 1, page 88, IT 0001. Remember that paragraph 5 in the staff estimate is a recommendation, while in the commander's estimate it's a deicision. The following is an analysis of each paragraph of the estimate.

(1) Paragraph 1, MISSION. While the higher headquarters commander will state the mission of the command, he will seldom, if ever give the C-E mission, especially at division level. The C-E mission can be determined by a thorough analysis of the mission

of the command, the concept of the operations, and the tasks for subordinate units as stated in the higher headquarters operation plan. Although the mission statement may include any one or a combination of the elements of WHO, WHAT, WHERE, WHEN, HOW, and WHY, it does not normally specify the details to be accomplished. Therefore, the S3 is primarily concerned with determining those elements not included in the mission statement. At battalion level, this often includes selecting locations for C-E installations and determining the use of battalion units.

(a) The mission should include:

1. Reference to the SOP for normal operation, installation, and maintenance of communications. This will eliminate the necessity for detailed repetitious C-E instructions for each operation.

2. Unusual or special communications support to be provided.

(2) Paragraph 2, SITUATION AND COURSE OF ACTION. The purpose of this paragraph of the operation estimate is to consider known and assumed factors and aspects of the situation which will affect C-E operations, and to develop feasible courses of action to accomplish the C-E mission. For logical development, it is divided into four subparagraphs:

(a) Characteristics of the area of operation.

1. Effects of the weather and atmospheric conditions on the employment of equipment.

2. Frequency propagation predictions for critical periods of the operation.

3. Factors pertaining to the terrain that may have a bearing on the accomplishment of the C-E mission in support of the operation.

4. Existing C-E systems and security implications of employing such systems in support of military operations.

(b) Enemy situation.

1. Disposition of known or suspected enemy electronic warfare and communications intelligence (COMINT) units that could impede the success of the mission.

2. Frequency spectrums that are most congested by enemy electromagnetic radiating devices.

3. The composition of enemy C-E forces.

4. Peculiarities or weaknesses that will affect the enemy C-E effectiveness, either favorably or unfavorably.

(c) Own situation.

1. Present commitment of own C-E elements, including disposition, composition, and strength.

2. Disposition, composition, and strength of C-E elements that are not committed and are available to support the mission.

3. Morale and state of training of C-E elements.

4. Vulnerability of C-E elements, systems, and equipment to enemy electronic warfare operations.

5. Signal Security (SIGSEC) program and practices.

6. Availability of logistical support for C-E elements.

(d) Courses of actions.

1. Maintenance of existing systems to prevent disclosure of impending operation to the enemy.

2. Phased displacement of C-E facilities to provide for continuous operation.

3. Employment of C-E deception to minimize the effectiveness of enemy intelligence activities.

4. Special C-E requirements that may arise during critical phases to the operation.

5. Requirements for C-E supply and maintenance support.

(3) Paragraph 3, ANALYSIS OF OPPOSING COURSES OF ACTION. The purpose of paragraph 3, of the estimate is to evaluate each course of action against those difficulties that may have a significant influence upon the success of the operation. Difficulties that have equal effect on all courses of action, or have little or no effect on the choice of a course of action, are not considered in this analysis. Each course of action must be carefully analyzed to assure that it meets the requirements of the scheme maneuver. Consider the following planning factors that may be used in analyzing the various courses of action: (METAL)

(a) Mission.

(b) Enemy.

(c) Troops.

(d) Area.

(e) Logistics.

(4) Paragraph 4, COMPARISON OF COURSES OF ACTION. The purpose of paragraph 4 of the estimate is to evaluate the importance of the critical factors indicated in the analysis of the situation and course of action. The primary consideration in comparing the various courses of action is that C-E facilities will be deployed to provide command control of the tactical operation. The following are factors that may be considered as advantages or disadvantages:

(a) Advantages.

1. Economy of personnel and facilities. The economical utilization of personnel and facilities may be considered a definite advantage when the tactical requirements are fulfilled and there are reserve resources. Such economy provides uncommited personnel and facilities that may be committed to assure continuous operation over extended periods of time in a highly fluid situation.

2. Location of C-E facilities. The selection of sites that will meet the requirements of the tactical situation and minimize the effectiveness of enemy air, ground, and electronic warfare attack may be considered an advantage.

3. Indigenous facilities. The capture and employment of indigenous facilities may be an advantage when such employment will reduce construction time, reduce facilities requirements, minimize effectiveness of enemy electronic warfare, or provide improved security facilities.

(b) Disadvantages:

1. Commitment of all personnel and facilities. Any course of action that calls for the full commitment of personnel and facilities in the early phases of the operation should be carefully evaluated. Such commitment of C-E personnel facilities may prevent the establishment of new facilities or the displacement of echelons of the command post as the tactical operation progresses. Further, the efficiency of personnel committed for long periods of time will decrease, and the system they operate will deteriorate.

2. Systems highly vulnerable to electronic warfare. If the facilities of a C-E system are so located that they are highly susceptible to enemy EW, they may be disrupted and fail to provide command and control during critical phases of the operation.

3. Failure to meet tactical requirements. Any course of action that fails to meet the tactical requirements should be disregarded. C-E facilities must be so located that they not only provide highly efficient C-E systems, but also provide ready access to the tactical units and facilities. This will aid in the overall accomplishment of the mission of the command.

(5) Paragraph 5, DECISION. In your deicision, select the course of action that has the greatest possibility of assuring the success of the C-E mission. Translate this course of action into a statement of what the C-E elements of the command as a whole are to do to assist the command in the accomplishment of its mission. State as much of the elements of who, what, when, where, how, and why, as may be appropriate. Assign tasks to the C-E elements of the command to insure that facilities are established and operating when required, do not overtax any single element, and provide adequate reserves to meet unforeseen requirements.

2-3 SUMMARY.

The estimate is the first step in your plan and/or order development process to insure that time and assets are used properly to support the task at hand. This is true whether it be in the training role or the real thing -- the combat role. Your estimate is a problem solving process that requires a systematic analysis of essential data, no matter what the level of command. You must make your estimate as thorough as time and circumstances allow; you must continuously update it. Both you and your staff must make estimates of the situation for every task. The estimates may not always be written or recorded, but nevertheless they must be made. Even though your estimates may be a thought process, use the five paragraphs, Figure 1, page 88, IT 0001, to assist you in applying thoroughness, clarity, judgment, logic and professional knowledge in reaching a sound decision.

LESSON 2 REVIEW EXERCISE 2

Complete items 1 through 7.

1. The C-E estimate is a procedure that is used to find the best way to accomplish a given mission.

a. True. b. False.

2. The preparation of the C-E estimate follows a five-step process, what is the second step?

a. Know the problem.

b. Assemble all the facts that bear on the problem.

c. Analyze each possible solution to determine its advantages and disadvantages.

d. Translate the selected solution into a decision.

3. What C-E publication can be made reference to that will eliminate the necessity for detailed repetitious instructions, when assigning tasks to subordinate units of the command?

a. SOP.

b. CEOI.

c. CESI.

d. ACP.

4. In what paragraph of the C-E estimate do you start developing feasible courses of action to accomplish the mission?

a. para 1.

b. para 2.

c. para 3.

d. para 4.

5. When planning for the displacement of signal centers in a tactical situation, one important factor to consider is the displacement of C-E facilities to provide for continuous operation.

a. True.

b. False.

6. Planning factors used in analyzing the various courses of action in paragraph 3 of the C-E estimate, can easily be remembered by the use of acronym "METAL" which are:

a. _____

b. _____

c. _____

d. _____

e. _____

7. One very important factor to consider when assigning tasks to subordinate elements of the command is not to overtax any single element, and to provide adequate reserves to meet unforeseen requirements.

a. True.

b. False.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 2 SOLUTION SHEET PAGE 106.

Section III COMMUNICATIONS-ELECTRONICS ANNEX

2-4 At the beginning of this lesson on the discussion of orders, we found out that the division C-E officer and his staff must publish a C-E Annex to the command operation order, when the signal instructions are too detailed and lengthy to be incorporated in paragraph 5 of the operation order. The Assistant Chief of Staff (ACofS), G3, Operations, has primary coordinating staff responsibility for the preparation, publication, and distribution of the operation order of the command. Other staff officers assist by providing those portions of the order pertaining to their special field. This contribution varies from a single sentence to a complex annex, depending on the requirement and the staff officer concerned.

2-5 Annexes to Orders.

a. The purpose of an annex is to provide detailed instructions not readily incorporated into the basic order. The annex is used to keep the basic text of the operation short and understandable. It also allows selective distribution of certain information in advance of the issuance of the operations order.

b. An annex is an integral part of an order. The number or type of annexes used is governed by the needs of the particular orders. Annexes, when used, increase the clarity and usefulness of the order because each annex pertains to one aspect of the operation.

c. Annexes provide information and direction to combat troops and to supporting, specialist, or service unit commanders. An annex to an order should not be an order from supporting, specialist, or service unit commanders to their troops unless it is an annex to their own order. Some of the information and direction given in the body of the order may be repeated, as necessary, in the annex. The number of annexes to an order will be limited by the needs of the particular order.

d. Annexes include--

(1) Details that amplify the basic order, e.g., operations overlay, intelligence instructions, C-E instructions.

(2) Combat support instructions, e.g., fire support, engineer.

(3) Administrative details, e.g., administrative overlay, traffic circulation and control instructions.

(4) Any other information or directions required to amplify the order.

e. The use of annexes does not preclude including in the body of the order all information essential to the effective employment of all command elements. Staff officers and subordinate commanders should not have to read an entire annex to determine the basic organization and employment of a single arm or service.

2-6 Appendixes, Tabs, and Inclosures.

a. During the preparation of the C-E Annex, the division C-E officer and his staff also want to keep the body of the annex short and understandable. They may also want to amplify some portion of the annex and this can be accomplished by using appendixes. These are additions that are necessary to amplify a portion of an annex. Appendixes are numbered serially with Arabic numerals, for example refer to Figure 2, Page 93, IT 0001. Another example: Appendix 1 (Enemy Radio) to Annex H (Communications-Electronics) to Operation Order 13, 22d Inf. Div.

b. Tabs. Additions that are necessary to amplify an appendix are contained in tabs designated alphabetically in sequence; for example, Tab A (Principal Fixed Stations) to Appendix 1 (Enemy Radio) to Annex H (Communications-Electronics) to Operation Order 13, 22d Inf Div.

c. Inclosures. Additions that are necessary to amplify a tab are contained in inclosures numbered serially with Arabic numerals; for example, Inclosure 1 (Hours of Operation) to Tab A (Principal Fixed Stations) to Appendix 1 (Enemy Radio) to Annex H (Communications-Electronics) to Operation Order 13, 22d Inf Div.

d. Additions. Additions necessary to amplify inclosures may be indentified by repeating the procedures specified in b and c above with double letters (AA) and/or double numbers hyphenated to distinguish the additions; e.g., Inclosure 1-1 (* * *) to Tab AA(* * *) to Inclosure 1 (Hours of Operation) to Tab A (Principal Fixed Stations) to Appendix 1 (Enemy Radio) to Annex H (Communications-Electronics) to Operation Order 13, 22d Inf Div.

2-7 Format of C-E Annex.

As a general rule, manuscript annexes will follow the five-paragraphs prescribed for the operation order to insure that no significant instructions are omitted. An example of the five-paragraph format is shown in Figure 2, page 93, IT 0001. Now to further study the format and contents of the C-E Annex refer to pages 89 through 94, IT 0001.

LESSON 2 REVIEW EXERCISE 3

Complete items 1 through 8.

1. The purpose of an annex is to provide detailed instructions not readily incorporated into the command operation order.

a. True. b. False.

2. Assume you were helping to prepare the C-E Annex and needed to amplify a portion of the annex on special PCM cable systems, what should you use?

a. Addition. c. Tab.

b. Inclosure. d. Appendix.

3. Abbreviations cannot be used in the C-E Annex because of loss of clarity.

a. True. b. False.

4. What three actions must be taken by the Division C-E officer and his staff to change the C-E plan into a C-E Annex to the command operation order?

a. _____

b. _____

c. _____

5. What paragraph of the C-E Annex lists the signal troops that have been attached or detached from the task organization?

a. Para 1. c. Para 3.

b. Para 2. d. Para 5.

6. What paragraph of the C-E Annex would contain instructions on radio silence or listening silence?

a. Para 5. c. Para 3.

b. Para 4. d. Para 2.

7. What signal publication will always be listed in Paragraph 5 (C-E Annex) under subparagraph a. signal?

a. Index to CESI.

b. Index to SOP.

e. Index to CEOI.

d. Admin-Logistic Order No.

8. Which of the following items is not contained in the formal ending of the C-E Annex?

a. Distribution.

b. Appendixes.

c. Official signature block.

d. Command operation order number.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 3 SOLUTION SHEET PAGES 106 AND 107.

Section IV SIGNAL UNIT OPERATION ORDER

2-8 PURPOSE.

The signal unit operations order provides a means by which the Unit Commander can direct his unit in operation and assigned specific tasks to each element of his unit. The time element has a lot to do with the publication of this order. Once a signal unit has been committed in an area of operations, a complete operation order is seldom prepared. In general, Communications-Electronics System provided by a signal unit that has been committed are controlled by the SOP, C-E Annex, CEOI and fragmentary orders that are issued to direct the modification of the systems to meet current and future requirements. The signal unit operation order is based upon, and is in amplification of, the command operation order. The format for the unit operation order is the same as that for the command operations order. In the unit operation order, specific tasks are assigned to each element of the unit. Upon receipt of a mission, the signal unit commander assesses the mission, briefs his staff, and he and his staff make an estimate of the situation. Based on this estimate and the commander's decision, the signal unit operation order is prepared and implemented.

2-9 FORMAT AND CONTENTS OF THE ORDER

Paragraph 1, SITUATION.

a. Enemy Forces. A reference may be made to the C-E Annex of the command operation order if the C-E Annex is available to all elements receiving the signal unit operation order. If the C-E Annex is not available, pertinent information must be extracted and included in the unit operations order.

b. Friendly Forces. Only information pertinent to the operation of the signal unit is extracted from the C-E Annex and amplified, where required, to clarify the mission.

c. Attachments and Detachments. List the attached or detached signal units with the effective date and time of attachment or detachment from the issuing headquarters. If these units are indicated in a task organization, an appropriate reference is entered.

d. Commander's Evaluation. This is an optional subparagraph to be used when directed or required. It gives briefly the commander's evaluation of the situation.

Paragraph 2, MISSION. Briefly state the missions that have been assigned to the unit or assigned by the unit commander. When the missions are as stated in the command operations, service

operations, or service support orders, or the annexes thereto, the missions may be extracted and amplified as necessary to assume clarity.

Paragraph 3, EXECUTION. The signal unit commander's concept of operation and the tasks assigned to each major element of the signal unit are stated in this paragraph. Task assignments may be made by simply referring to the unit SOP if they have been adequately and appropriately covered; otherwise, the tasks assigned to appropriate elements of units are stated in this paragraph. Overlays, maps, or diagrams may be used to indicate task assignments. The last subparagraph includes appropriate coordinating instructions when instructions are applicable to two or more elements of the command.

Paragraph 4, SERVICE SUPPORT. This paragraph contains essential information pertaining to the procedures of obtaining service support not covered by the unit SOP, other orders, or instructions. It lists the location of the administrative, supply and maintenance installations that provide support to the unit; or makes reference to the service support order or annex that contains this information.

Paragraph 5, COMMAND AND SIGNAL. Subparagraph a (Signal) of paragraph 5, information should contain as a minimum the appropriate reference to the applicable portion of the CEOI to be in effect; and it should also contain any special instructions relating to C-E matters, such as instructions on the use of pyrotechnics or restrictions on the employment of any means of communications. Subparagraph b (Command) includes the locations of the command post of the issuing unit (if not shown graphically) and the location of the command group. It may also include the locations of command posts of subordinate units; the location of the command post of the next higher headquarters; and the designation of an alternate command post. If a C-E Annex isn't published, this subparagraph c (Axis of Command Post Displacement) will contain information on the future locations of major headquarters.

2-10 ADMINISTRATIVE/LOGISTIC ORDER.

The Administrative/Logistics orders provide coordinated combat service support for command. We found out that the division C-E officer and his staff, when preparing the signal plan and/or C-E Annex (Paragraph 4) is prepared separately for inclusion in the Administrative/Logistics order, which contains the signal administrative and logistical instructions for the operation. To further study the format and contents of this order, refer to Paragraphs 1 through 3, pages 95 through 97, IT 0001.

LESSON 2 REVIEW EXERCISE 4

Complete items 1 through 7.

1. Once a signal unit has been committed in an area of operation, a complete signal unit operation order is always prepared and published.

a. True. b. False.

2. When preparing subparagraph a, "Enemy Forces," under paragraph 1, situation of the unit operation order, what publication can you make reference to when the C-E Annex is available to all elements receiving the signal unit operation order?

a. Intelligence Annex.

b. Command Operation Order.

c. C-E Annex.

d. Intelligence Report from G2.

3. When listing signal units under subparagraph c, "Attachments and Detachments," of paragraph 1, situation of the unit operation order, what three entries are required?

a. _____

b. _____

c. _____

4. Appropriate coordinating instructions are contained in the last subparagraph of paragraph 3, Execution in the Signal Unit Operation Order.

a. True. b. False.

5. Paragraph 4, "Service Support," of the Signal Unit Operation Order contains essential information pertaining to the procedures of obtaining service support not covered by the Service Support Annex.

a. True. b. False.

6. The service support shows the main supply route (MSR) and the locations of various logistic points by grid coordinates in support of the division.

a. True. b. False.

7. What distribution code is given the Service Support Annex to the division operation order?

a. F. c. B.

b. S. d. A.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 4 SOLUTION SHEET PAGE 107.

LESSON 3

COMMUNICATIONS-ELECTRONICS INSTRUCTIONS

SCOPE	SOP, CEOI, use and contents.
CREDIT HOURS	2
TEXT ASSIGNMENT	Attached memorandum, para 3-1 through 3-20.
MATERIALS REQUIRED	None.
SUGGESTIONS	Retain lessons for open book examination.

LESSON OBJECTIVES

The student will be able to:

1. Know the purpose of a good command SOP, the scope, formats used, and suggested contents of the SOP.

2. Know who is responsible for the SOP and how the C-E SOP is prepared in form of an annex to the Division SOP by the division C-E officer and his staff.

3. Be familiar with the contents of the division SOP, the staff C-E section SOP (battalion), and the signal unit SOP (company), and how the scope of the SOP varies with the echelon of the preparing command.

4. Know the purpose and description of the new automated CEOI.

5. Be familiar with the two types of CEOI's and when each is used.

6. Have a general knowledge of the contents of the automated CEOI and how each CEOI package contains three segments for a 30-day period.

7. Know the preparing command, distribution, and requisitioning of the CEOI.

8. Be familiar with the number cipher/authentications system using the KAL-61.

ATTACHED MEMORANDUM

Section I STANDING OPERATING PROCEDURES (SOP)

3-1 PURPOSE.

The SOP is one of several types of orders the commander develops and uses to get the job done. It is pretty much what the title implies. It is a set of instructions covering those features of operations which lend themselves to a definite or standardized routine procedure. The SOP reflects approved doctrine as published in current Army-wide literature, directives, and regulations as modified to meet local operating conditions and the policies of the command. The SOP is applicable unless prescribed otherwise in a particular case, thereby maintaining the flexibility needed for special situations. The amount and type of information to be included in an SOP must be carefully determined. These procedures must be clear and concise; however, clarity must not be sacrificed for brevity. In the absence of specific orders to the contrary, the instructions contained in the SOP are obligatory. The SOP serves the following purposes:

a. Reduces the need for other type orders and simplifies the preparation and transmission of orders.

b. Simplifies and perfects troop training through establishment of uniform practices for the unit.

c. Promotes understanding and teamwork throughout the command.

d. Facilitates and expedites tactical and administrative operations and minimizes confusion and error.

3-2 SCOPE OF THE SOP.

The scope of the SOP varies with the echelon of the preparing command. An SOP prepared by a division is broad in scope and provides essential instructions for all elements of the division. The SOP of a subordinate element of the division applies only to the individual unit. As the scope of the SOP decreases, the detail it contains will increase. For example, a section SOP is detailed and states what each individual does, and in what sequence he does it, with respect to the other individuals and operations of the section.

3-3 FORMAT AND CONTENTS OF SOP.

Although there is no published firm format for the SOP, you will find the acceptable format is generally of two types.

a. It may be published as an all-inclusive document. That is, it will be a document of sections and paragraphs detailing the duties and responsibilities of subordinate units, and where applicable, of personnel. This format will not have annexes or attachments.

b. The SOP may be published as a basic document containing instructions of a general nature and interest to all units, and with separate annexes for each type of function (i.e., communications, administration, supply, etc.) and technical or specific instructions for individual units and/or personnel. The latter format is preferred because it is usually better prepared, more detailed, and easier to use, maintain, and update. Whichever format is used, SOP's for units within the command, or units organized under the same TOE are standardized to facilitate cross referencing, and expedite the orientation of new personnel.

c. SOP's prepared by subordinate units must comply with, and be related to, pertinent parts of the SOP of the higher command. SOP's pertaining to practices or procedures governed by regulations or other publications readily available to all elements of the command should not be repeated except when such repetition is required to clarify local operating practices. Normally, reference is made to published documents when the referenced document is not subject to frequent change. When the SOP of a subordinate unit follows the same format as that of a major headquarters of the command, annexes prepared as a part of the subordinate unit's SOP are lettered to correspond to the similar annexes prepared by the major command. When a proposed annex is identical to one prepared by the major command, the subordinate unit may list the annex by designation only and refer to the SOP of the major command. Such listing of the annexes to the SOP of the major command eliminates the requirement for the subordinate unit to publish rarely used instructions in its SOP.

3-4 RESPONSIBILITY FOR THE SOP.

The commander is ultimately responsible because it pertains to his command; however, this is normally a staff function of the G3/S3 section. The G3/S3 coordinates with other members of the staff, receives their input, assembles, and has it published and distributed. The C-E officer is responsible for preparing the C-E portion of the command SOP as are the other staff officers for their respective areas of responsibility. Normally, he does this by preparing C-E annexes which provide instructions pertaining to all C-E operations of all elements of the command.

3-5 ITEMS TO CONSIDER.

Items which the C-E staff officer or signal unit staff officers should consider when developing the C-E Annex or signal

unit SOP are:

a. Format. The format for the higher headquarters SOP determines the format of the lower unit's SOP.

b. Organization. Instructions pertaining to habitual organizations provide the C-E officer with information pertaining to the composition of such organizations. An analysis of the C-E requirements of each of these organiazations will indicate the general disposition of the communications elements of the command. Depending upon the detail contained in the task organization assignments, the C-E officer may be required to provide information for inclusion in the SOP indicating which communications elements will be assigned to specific task organizations.

c. Orders, Reports, and Distribution. An analysis of the distribution requirements for orders, and recurring reports provide the C-E officer with part of the basic data for determining communications systems configurations and requirements. An analysis of the requirements for routine reports and routine message distribution between and within headquarters provides the C-E officer with information upon which he establishes messenger service for the command.

d. Command Post. The C-E officer assists in the preparation of instructions pertaining to the location and organization of command posts since these are factors to consider in determining C-E requirements. These instructions include:

(1) Reporting Procedures. Information desired from subordinate units concerning new command posts which is of interest to the C-E officer. The information includes--

(a) Location of the command post.

(b) Time the command post opened or will be open.

(c) Area, command, or major unit switchboard that services the unit.

(2) Headquarters. The composition of the command post is important to the C-E officer because its composition and mission determine its C-E requirements. The C-E officer assists in preparing instructions pertaining to--

(a) Movement of the current headquarters, including requirements for the displacement of the current headquarters, and the selection and occupation of new location for the headquarters.

(b) Control procedures for the headquarters.

(c) Establishment of the new headquarters.

LESSON 3 REVIEW EXERCISE 1

Complete items 1 through 6.

1. A well organized and written SOP facilitates and expedites tactical and administrative operations and eliminates confusion and error.

a. True. b. False.

2. The scope of the SOP varies with the echelon of the preparing command, as the scope of the SOP decreases, the detail it contains will increase.

a. True. b. False.

3. What are the two acceptable formats you may use in publishing an SOP?

a. _____

b. _____

4. Of the two formats used for publsihing SOPs, which format is preferred because it is usually better prepared and easier to use?

_____

5. Annexes prepared as a part of the subordinate unit's SOP should be lettered to correspond to the similar annexes prepared by the major command.

a. True. b. False.

6. List three items the C-E officer or signal unit officers should consider when developing the C-E Annex or signal unit SOP.

a. _____

b. _____

c. _____

CHECK YOUR ANSWERS WITH LESSON EXERCISE 1 SOLUTION SHEET PAGE 107.

3-6 C-E PORTION OF COMMAND SOP.

Broad statements of C-E policy are contained in the body of the command SOP. The more detailed instructions are found in the C-E Annex to the command SOP and in the CEOI. The C-E Annex to the SOP prescribes C-E records and reports that all units of the command are required to maintain and submit, such as beaconing, intrusion, jamming, and interference (MIJI) reports; the organization of communications nets; communications to be provided to various echelons of the headquarters and major subordinate units; instructions for establishing communications if command post or signal center is lost; and pertinent instructions applicable to all elements of the command, but which are not included in the CEOI.

3-7 SUGGESTED SUBJECTS

Suggested subjects for inclusion in the C-E Annex or the signal unit SOP are as follows.

a. References. References may include field manuals, technical manuals, regulations, and the SOP and CEOI of higher commands.

b. Training of C-E Personnel. Training instructions for C-E personnel are limited to general statements of responsibility. Detailed instructions are normally contained in training memorandums.

c. Signal Security (SIGSEC). The purpose of these instructions is to develop and maintain a SIGSEC awareness throughout the unit. They are limited to those instructions that are applicable to all elements of the command and are not contained in the command's CEOI.

d. Physical Security. The purpose of these procedures is to develop an awareness for physical security, promulgate and standardize procedures throughout the unit.

e. Signal Centers. These instructions should include the number of signal centers to be established for routine operations, the services they are to provide, and general procedures governing their displacement and operation.

f. Telecommunications Centers. These instructions govern the location and marking of telecommunications centers, establish procedures pertaining to the transmittal and receipt of documents, prescribe records to be maintained, and give other information pertaining to telecommunications center operations.

g. Messenger Service. These instructions should indicate the extent of the command messenger service including scheduled

motor, air, and special messengers. They should indicate pickup and delivery points, prescribe methods of packaging and addressing, state security clearances required by messengers, and prescribe methods of marking messenger vehicles.

h. Wire Communications. These instructions include assignment of responsibility for normal wire lines and wire cable construction practices, priority of installations, tagging procedures, general guidance pertaining to location of switchboards, patching, and circuit/system control facilities, teletypewriter equipment, other major terminal equipment, and instructions governing the placing of calls. These instructions may also include directory service, circuit/system control procedures, instructions for obtaining service, and care and maintenance of wire communications material.

i. Radio Communications. These instructions pertain to installation, operation, and maintenance of radio communications equipment, composition and use of radio nets, including those required for special purpose and emergency operations. These instructions also define actions to be taken in the event of jamming and establish procedures for monitoring various frequencies on nets.

j. Multichannel Communications. These instructions pertain to installation, operation, and maintenance of those multichannel systems that apply to all elements of the command. Detailed instructions on operations should be published in the SOP of the signal unit that provides the multichannel system. The C-E Annex should indicate those facilities that are to be provided each major element of the command and prescribe the criteria for their displacement.

k. Radio-wire Integration. These instructions prescribe the general procedures to be employed by all users for the installation, operation, and maintenance of radio/wire integration facilities to include authorized users and priorities for usage.

l. Visual and Sound Communications. These instructions pertain to the general use and distribution of visual and sound signal devices (flags, lights, pyrotechnic, panels, arm-and-hand signals, whistles, sirens, bells, voice amplifiers, explosive devices, etc.). Specific instructions on visual and sound communications are in the CEOI and operation order. These instructions cover the maintenance of equipment where applicable.

m. Electronic Warfare. These instructions contain routine actions to be taken in an EW environment to include the reporting of hostile interference, jamming, and deception

attempts, and employment of standard procedures to minimize the occurrence and effects of electronic countermeasures. These instructions are normally defined in the SOP or CEOI with elaborate instructions relevant to electronic-counter-countermeasures (ECCM) and EW set forth in the EW Annex. When an EW Annex is not published, instructions must be in the C-E Annex. If both annexes are published cross reference must be made.

n. Frequency Control. These instructions pertain to frequency control which should include procedures to be followed to obtain frequencies, restrictions on the use of frequencies, procedures for reporting interference, and conditions under which radio silence or listening silence is required. Your CEOI should adequately cover the subject.

o. Communications Security (COMSEC Logistics). COMSEC Logistics remain the staff responsibility of the C-E officer. Procedures for issuance, control, and turn-in of COMSEC material are found in AR 380-41.

p. Audio-Visual Support. These instructions prescribe audio-visual support to be provided the various elements of the command to include still and motion picture photography, photographic laboratory operations, television, audio and graphics, procedures for requesting support, and location of audio-visual facilities.

q. Communications-Electronic Management System (CEMS) This management system plans, engineers, directs, coordinates, and controls the implementation, integration, and operation of the communications in response to user needs. CEMS is structured into four element systems, and the SOP item should include instructions on these four elements. They are the--

(1) Communications System Planning Element (CSPE).

(2) Communications System Control Element (CSCE). (The division CSCE is operated by the signal battalion under the supervision of the S3 officer).

(3) Communications Nodal Control Element (CNCE). (The CNCE replaces both FACCON and the TECHON).

(4) Communications Equipment Support Element (CESE).

r. Official Time. Official time is the responsibility of the senior C-E officer of the command. Normally, he delegates a single operating unit, which has the capability of monitoring WWV, as the command official time custodian. To avoid any possible misunderstanding or confusion, the official time of a subordinate command must be related to the official time of the next higher command.

s. Data Communications. With the increasing emphasis on automated data processing systems (ADPS), certain information, such as the location of ADP facilities, and the time sharing communications circuits may be incorporated into the C-E Annex.

t. Tactical Automatic Switching System (TASS). With the innovation of the tactical automatic switching system, numerous changes in procedures and doctrine are required to provide standardizations without loss of effectiveness.

u. Systems and Circuits Identification. The instructions cover the proper identification of circuits and systems for installation and control purposes in accordance with (IAW) the 7-character identification system. These instructions should also cover tagging of wire circuits (wire tagging code).

v. Communications Systems. The communications systems consist of two combined systems, the command and the area systems. These systems are designed and engineered to provide tactical support for the Army units in the field. The use of multi-axis Communications-Electronics equipment provide sufficient high capacity, quality controlled facilities to meet response, flexibility, mobility, and disposition requirements. These communications systems combine corps command and area communications systems utilizing area signal centers to provide tactical automatic switching, centralized control, and interconnected circuits/systems throughout the corps in the field. The interconnecting of two or more signal centers nodes provides for a wider distribution of traffic loads, primary and secondary routing over alternate systems, and enhances reliability of the communications media consistent with demands envisioned for proposed data systems. Instructions in this signal annex pertaining to these systems should include the doctrinal procedures that apply to all elements of the command.

w. Miscellaneous. Information pertaining to the location of the C-E officer, selection of command posts, instructions governing the preparation of the CEOI, SOP, and the instructions pertaining to C-E planning for future operations.

LESSON 3 REVIEW EXERCISE 2

Complete items 1 through 6.

1. Broad statements of C-E policy are contained in the body of the command SOP, the more detailed instructions are found in the C-E Annex to the command SOP.

a. True. b. False.

2. List four suggested subjects for inclusion in the C-E Annex or the signal unit SOP.

a. _____

b. _____

c. _____

d. _____

3. The location of switchboards, patching circuit/system control facilities should be found under what subject title?

a. Telecommunications centers.

b. Wire communications.

c. Multichannel communications.

d. Radio communications.

4. What publication would contain elaborate instructions on EW and ECCM?

a. Battalion SOP.

b. Command Operations Order.

c. EW Annex.

d. CESI.

5. What is the new CEMS element that replaces both the FACCON (facilities-control) and TECHON (Technical-control)?

a. CSPE. c. CNCE.

b. CSCE. d. CESE.

6. How many digits are contained in a system or circuit designator?

a. 5.
b. 6.
c. 7.
d. 11.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 2 SOLUTION SHEET PAGE 108.

3-8 INTELLIGENCE.

The C-E officer, together with the electronic warfare officer, should assist the G2 in the preparation of those portions of the command SOP that pertain to signal intelligence (SIGINT). Information provided by the C-E officer includes instructions on types of documents and equipment to be processed through signal technical intelligence channels, methods for reporting the capture of such documents and equipments, and the provisions for security of signal communications installations. The C-E officer also provides the information pertaining to enemy C-E operations required to assist in the preparation of communications and electronic warfare plans.

3-9 STAFF C-E SECTION SOP.

The purpose of this SOP is to provide instructions that will facilitate planning and operations and assure that all elements of the staff are aware of their assigned responsibilities and functions. It aids in coordinating C-E matters with members of the staff and elements of the command. Examples of items that may be included in the C-E section SOP are--

a. Organizations. This normally is indicated by an organizational chart containing brief statements giving the functions of each element of the signal section.

b. Responsibilities. Each staff member is assigned responsibilities for staff supervision over specific C-E activities of the command. Preparation and distribution of plans, orders, and instructions. This procedure should specify, as a minimum, the following:

(1) Staff member responsible for preparing and disposing of records and reports.

(2) What coordination is to be accomplished in their preparation.

(3) Who has final authority to approve plans.

(4) Who authenticates orders and instructions.

(5) To whom and how plans, orders, and instructions are to be issued.

c. Preparation and Disposition of Records and Reports. These responsibilities are clearly defined in the AR 340-18 series.

d. Normal location of personnel. This statement specifies which staff members will be located at the various echelons of the command.

e. Displacement and Site Selection. This statement prescribes the methods used in selecting new locations and the means to be used in displacement.

f. Miscellaneous. The C-E section SOP may also include instructions pertaining to the preparation and processing of correspondence, maintenance of situation maps, and methods of conducting briefings.

3-10 Signal Unit SOP.

a. The signal unit SOP provides for the operation of the signal unit in the execution of its assigned missions. It amplifies the command SOP in order to provide more specific and detailed instructions for the various elements of the signal unit. Its scope is determined by the type of unit, the amount of detail the unit commander desires, and the echelon of command to which the unit is assigned. As a minimum, the SOP will include--

(1) Specific responsibilities to each major element of the unit.

(2) Instructions on unit operation that the commander considers as routine and of such importance that continuing instructions are desirable.

(3) Instructions governing the execution of all C-E missions assigned.

(4) Instructions pertaining to the routine service support and operations to include personnel policies and procedures, unit service support procedures, all classes of supplies, all types of equipment, maintenance, inspection procedures, physical security, and others as directed by the unit commander.

b. The SOP of the signal unit is prepared to conform to the SOP of the command to which assigned. It may be published as a single document or a basic document with a series of annexes. The latter form is preferred. It contains instructions of general interest to the unit in the basic document, and separate annexes containing technical instructions or procedures that apply only to particular operations or elements of the unit.

3-11 SUMMARY.

a. The SOP is one of several types of orders you as the signal unit commander will use to do the job. This SOP contains instructions covering those features of operations which lend themselves to a definite or standardized procedure. The instructions in a good unit SOP cover almost every phase of the unit's operation, and are of adequate detail to reduce the need for other type orders. The SOP reflects approved, published doctrine as modified by local operating conditions, and the policies of the command.

b. The scope of the SOP varies with the echelon of the preparing command. An SOP for a division is broad in scope; thus, providing only essential instructions for all elements of the divisions. As the scope of the SOP decreases, the detail it contains will increase. Throughout the Army you will find there are several formats used to develop the SOP; the following are two types you will see most.

(1) An all inclusive document of sections and paragraphs detailing the duties, responsibilities, and operation of the unit. This format does not contain annexes.

(2) A basic document containing instructions of general nature and interest to all elements and operations of the unit. It will have separate annexes for each type of function and technical or specific instructions for individual units and/or personnel.

c. The main points you should remember about the SOP are clarity and completeness, be organized so that needed information and instructions are easy to locate, and the format used by subordinate units must comply with and relate to pertinent parts of the SOP of the higher command.

LESSON 3 REVIEW EXERCISE 3

Complete items 1 through 4.

1. The staff C-E section SOP contains instructions for planning and operations of the Division Signal Battalion Headquarters and assigns responsibilities and functions to all elements of the staff.

a. True. b. False.

2. The C-E section SOP may include instructions on the preparation and maintenance of situation maps.

a. True. b. False.

3. What three factors determine the scope of the signal unit SOP?

a. _____

b. _____

c. _____

4. What two formats may be used when preparing and publishing the signal unit SOP?

a. _____

b. _____

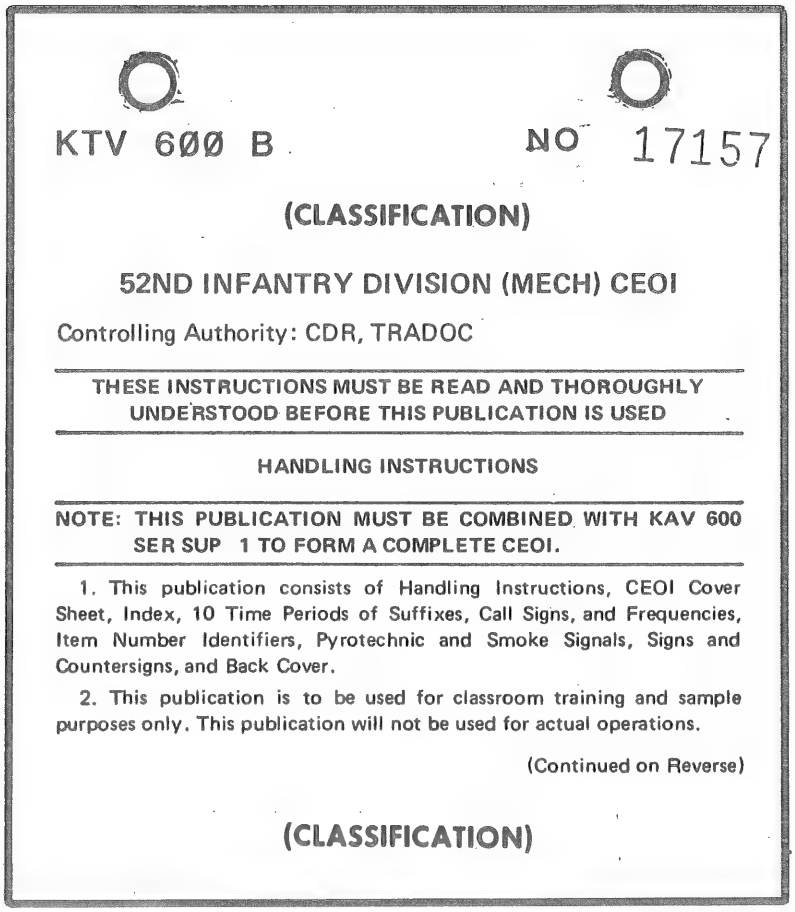
CHECK YOUR ANSWERS WITH LESSON EXERCISE 3 SOLUTION SHEET PAGE 108.

Section II COMMUNICATIONS-ELECTRONICS OPERATION INSTRUCTIONS (CEOI)

3-12 PURPOSE AND DISCUSSION.

This section describes the new CEOI and explains how to use it. In the past, communicators prepared a CEOI manually. The standing instructions which explained how to use the CEOI were also prepared manually and published as a separate document called communications-electronic standing instructions (CESI). Today, these instructions are provided Army units in a two part package. The basic document is provided to a command on a monthly cycle. It contains such items as the daily changing call signs, frequencies, suffixes, and other changing supplemental items. A separate supplemental package is provided on a one time (or as needed) basis. This package contains handling instructions, general instructions, telephone switchboard designators, and other items which change infrequently. A command simply combines these two documents in the field to make a complete CEOI. Although the title, CEOI, remains the same, the method of preparing a CEOI and the use of its contents have changed. The new CEOI is prepared at a central location, using automated techniques. These techniques replace the old method of tactical radio call signs being selected from two word combinations. Instead, the new CEOI lists call signs using letter-number-letter (LNL) combinations selected by a computer. This allows the changing of call signs, suffixes, and frequencies at least every 24 hours.

a. Description and Makeup. All CEOI's are now one standard size: 4-1/4 x 4-3/4 inches. See example of front cover of CEOI Figure 3-1. They will fit easily into a soldier's field jacket pocket to ease handling. They reach the major commands in a complete package assembled in a "layered" configuration: that is, part of the package that applies to subordinate units can readily be separated and distributed. The exact makeup of each CEOI package is determined by the using command. This means that each major command communications-electronics officer is responsible for finishing the initial information and promptly reporting to the preparing agency all changes or required updates so the computer can keep pace as his organization, plans, and programs change. Each CEOI package contains three segments. A segment covers ten time periods. This provides enough material for a 30 day period. Should loss or compromise occur at any time during a day, the command merely shifts to the next time period segment. This gives the appearance as one operating and two reserve segments, and the reason for putting the CEOI package into three segments is to reduce the impact of possible loss or compromise. The "heart" of the new CEOI is the capability to change call signs, suffixes, and frequencies at least every 24 hours, and this is possible by



KTV 600 B NO 17157

(CLASSIFICATION)

52ND INFANTRY DIVISION (MECH) CEOI

Controlling Authority: CDR, TRADOC

THESE INSTRUCTIONS MUST BE READ AND THOROUGHLY UNDERSTOOD BEFORE THIS PUBLICATION IS USED

HANDLING INSTRUCTIONS

NOTE: THIS PUBLICATION MUST BE COMBINED WITH KAV 600 SER SUP 1 TO FORM A COMPLETE CEOI.

1. This publication consists of Handling Instructions, CEOI Cover Sheet, Index, 10 Time Periods of Suffixes, Call Signs, and Frequencies, Item Number Identifiers, Pyrotechnic and Smoke Signals, Signs and Countersigns, and Back Cover.

2. This publication is to be used for classroom training and sample purposes only. This publication will not be used for actual operations.

(Continued on Reverse)

(CLASSIFICATION)

Figure 3-1. Actual size of CEOI.

using automated techniques. This method removes the time-consuming manual CEOI preparation requirement from the using command and improves our communications security posture. It DOES NOT remove from the tactical commander overall responsibility for his command CEOI system.

b. Responsibility. The division/brigade commander is the controlling authority of your CEOI system. The C-E officer, acting for the commander, insures that the current CEOI is available to those who operate communications systems. The C-E officer insures that higher and adjacent organizations get copies of his CEOI. As the controlling authority's representative, he decides who will be designated as holders, and establishes effective dates of the CEOI editions and segments. All users must be familiar with the general and special instructions in the CEOI, if effective and responsive communications are to be available. As mentioned earlier, (the CEOI supplement)

your CEOI contains specific instructions, for the operation of C-E equipment, systems, and facilities within your command. The command CEOI is the only authorized document from which subordinated elements will extract call signs and frequencies for unit's CEOI's.

c. Contents. The new CEOI contains general and special operating instructions. With these instructions in the CEOI, each communications user has in one package all the guidance he needs to operate tactical communications effectively and securely. All CEOI's are standard in format to meet the needs of the organization it is prepared for.

d. Format. On the index pages of the CEOI, you will find the contents are listed and identified by item number. Figure 3-2 shows example index of the CEOI. These numbers relate only to the CEOI your command is using and are not standard throughout the Army. These item numbers are very useful when you are communicating with someone else who holds the same CEOI you do.

e. Single Channel Radio Nets. Field radio stations are grouped into nets according to the tactical situation. To control a net, one station, usually the one serving the highest echelon is designated as the net control station (NCS). The authority of the NCS is absolute. The NCS opens and closes the net, grants or denies permission to enter the net, corrects errors in operating procedures, and maintains net discipline. The call sign assigned to the highest echelon within the net is used by the NCS when a collective call is desired. Radio nets will normally be operated as free nets. In free nets, stations may exchange traffic without prior permission from the NCS. When traffic is heavy, or when operators are inexperienced, the NCS may order a directed net. In this case, no station will transmit without first calling the NCS and requesting permission.

(CLASSIFICATION)

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52ND AVN BN CALL SIGNS AND FREQS	17
AHC 52ND AVN BN	17A
AHC PLT'S	17B
GEN SPT CO 52ND AVN BN	17C
52ND ASA CO CALL SIGNS AND FREQS	18
52ND ASA CO RATT	18A
SPARE CALL SIGNS AND FM FREQS	19
SPARE CALL SIGNS AND FM FREQS	19A
SPARE CALL SIGNS AND VHF FREQS	19B
SPARE CALL SIGNS AND UHF FREQS	19C
SPARE CALL SIGNS AND HF FREQS	19D
ITEM NUMBER IDENTIFIERS	20
PYROTECHNIC AND SMOKE SIGNALS	21
SIGNS AND COUNTERSIGNS	22

(CLASSIFICATION)

KTV 600 Series - INDEX 1

NOTE: THE FOLLOWING ITEMS ARE CONTAINED IN KAV 600 SER SUP AND MUST BE ATTACHED TO KTV 600 TO FORM A COMPLETE CEOI.

ITEM	ITEM NO
INDEX	101
GENERAL INSTRUCTIONS	102
RC-292 ANTENNA INSTRUCTIONS	103
SOUND SIGNALS	104
PANEL SIGNALS	105
GROUND AIR EMERGENCY SIGNALS	106
WIRE TAGGING SYSTEM	107
TELEPHONE SWITCHBOARD DESIGNATORS	108
TELEPHONE NUMBER DIRECTORY	109
INTERFERENCE REPORT/ECCM MEASURES	110
TRANSMISSION SECURITY INSTRUCTIONS	111
EEFI INSTRUCTIONS	112
AUTHENTICATION INSTRUCTIONS	113
TRANSMISSION AUTHENTICATION ASSIGNMENTS	114
KEY LISTS	115
OPERATIONS CODE	116
NUMERAL CIPHER AUTHENTICATION SYSTEM	117
BREVITY LIST	118

Figure 3-2. Example Index of the CEOI.

LESSON 3 REVIEW EXERCISE 4

Complete items 1 through 6.

1. Under the new automated CEOI, what word and number combinations are used for call signs?

a. Letter-Letter-Number. (LLN).

b. Number-Number-Letter. (NNL).

c. Number-Letter-Number (NLN).

d. Letter-Number-Letter (LNL).

2. What is the new standard size of the automated CEOI?

a. 4 1/4 x 4 3/4 inches.

b. 5 1/4 x 5 3/4 inches.

c. 5 x 8 inches

d. 8 x 10 1/2 inches.

3. How many time periods does each segment contain in the automated CEOI?

a. 5.

b. 10.

c. 15.

d. 30.

4. The "heart" of the new CEOI is the capability to change call signs, suffixes, and frequencies at least every 36 hours.

a. True.

b. False.

5. What is the item number of the index of the CEOI?

a. 4.

b. 3.

c. 2.

d. 1.

6. What type of net is used when stations may exchange traffic without obtaining prior permission from the NCS?

CHECK YOUR ANSWERS WITH LESSON EXERCISE 4 SOLUTION SHEET PAGES 108 AND 109.

f. Call signs, suffixes, and frequencies. A call sign has two parts. Both parts change at least every 24 hours. The first part uses a letter-number-letter combination which is randomly selected. This is the basic call sign. The second part is the suffix. Normally, it consists of two numbers, but if the command contains more than ninety-nine users, extender letters are added, such as A, B, and so on. The last letter of the basic part is unique to the echelon at which the user operates. For example, in a battalion, no two stations would have the same last letter. The reason for this is that it permits an abbreviated call sign for routine use in a functioning net. See Figure 3-3 for examples of call signs. A call sign must be used on its effective date. At no time will a new call sign be used on an old frequency. By the same token, an old call sign will not be used on a new frequency. Call signs,

(CLASSIFICATION)

KTV 600 B CALL SIGNS

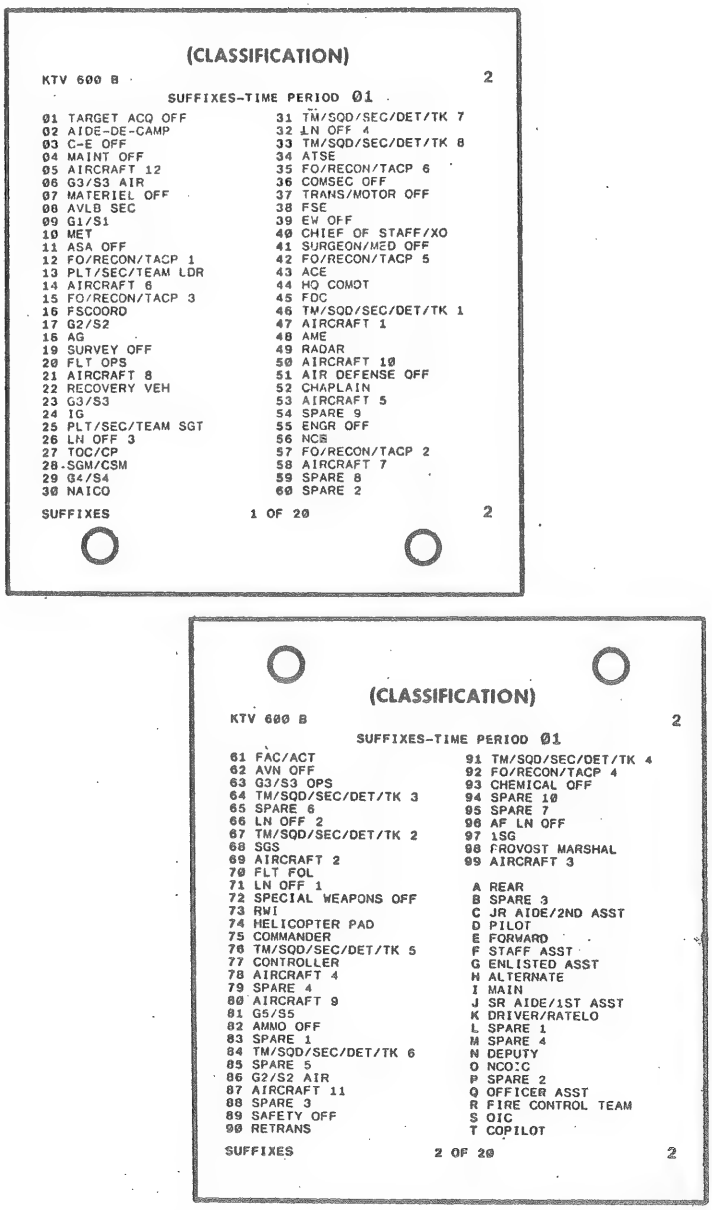
DIV ADMIN/LOG RATT 4C

	01	02	03	04	05
DIV MAIN	E2W	K9G	W8J	I0E	I0Z
DIV ALT	K8T	X1J	K2T	G4G	I7B
1 BDE	N6F	W8Y	F6Z	Y1Y	P2K
2 BDE	E4O	Z7L	F4C	B4K	V4O
3 BDE	O6Z	C0H	H4S	J5T	D5N
DIVARTY	R4J	E5O	J8B	V2F	J4M
1-23 CAV SQDN	W7B	M7M	A7I	C9S	O5I
1-441 ADA BN	B3X	Z7E	N5G	B6R	L2C
52 ENGR BN	R6C	D3A	C2X	R3H	Y6E

DIV ADMIN/LOG RATT 4C

Figure 3-3. Example of CEOI Item CALL SIGNS.

suffixes, and frequencies are changed simultaneously throughout the organization at least every 24 hours. The time to change is specified in the general instructions item. If you are supposed to change at an odd time, you will be so informed through proper channels. An example of suffixes contained in the CEOI are shown in Figure 3-4. A frequency is assigned to a radio net for a stated period of time. The block of frequencies allocated to the command are assigned to designated nets by a centralized computer. This permits nets to change frequencies at



(CLASSIFICATION)

KTV 600 B 2

SUFFIXES-TIME PERIOD 01

01 TARGET ACQ OFF	31 TM/SQD/SEC/DET/TK 7
02 AIDE-DE-CAMP	32 LN OFF 4
03 C-E OFF	33 TM/SQD/SEC/DET/TK 8
04 MAINT OFF	34 ATSE
05 AIRCRAFT 12	35 FO/RECON/TACP 6
06 G3/S3 AIR	36 COMSEC OFF
07 MATERIEL OFF	37 TRANS/MOTOR OFF
08 AVLB SEC	38 FSE
09 G1/S1	39 EW OFF
10 MET	40 CHIEF OF STAFF/XO
11 ASA OFF	41 SURGEON/MED OFF
12 FO/RECON/TACP 1	42 FO/RECON/TACP 5
13 PLT/SEC/TEAM LDR	43 ACE
14 AIRCRAFT 6	44 HQ COMDT
15 FO/RECON/TACP 3	45 FDC
16 FSCOORD	46 TM/SQD/SEC/DET/TK 1
17 G2/S2	47 AIRCRAFT 1
18 AG	48 AME
19 SURVEY OFF	49 RADAR
20 FLT OPS	50 AIRCRAFT 10
21 AIRCRAFT 8	51 AIR DEFENSE OFF
22 RECOVERY VEH	52 CHAPLAIN
23 G3/S3	53 AIRCRAFT 5
24 IG	54 SPARE 9
25 PLT/SEC/TEAM SGT	55 ENGR OFF
26 LN OFF 3	56 NCS
27 TOC/CP	57 FO/RECON/TACP 2
28 SGM/CSM	58 AIRCRAFT 7
29 G4/S4	59 SPARE 8
30 NAICO	60 SPARE 2

SUFFIXES 1 OF 20 2

(CLASSIFICATION)

KTV 600 B 2

SUFFIXES-TIME PERIOD 01

61 FAC/ACT	91 TM/SQD/SEC/DET/TK 4
62 AVN OFF	92 FO/RECON/TACP 4
63 G3/S3 OPS	93 CHEMICAL OFF
64 TM/SQD/SEC/DET/TK 3	94 SPARE 10
65 SPARE 6	95 SPARE 7
66 LN OFF 2	96 AF LN OFF
67 TM/SQD/SEC/DET/TK 2	97 1SG
68 SGS	98 PROVOST MARSHAL
69 AIRCRAFT 2	99 AIRCRAFT 3
70 FLT FOL	
71 LN OFF 1	A REAR
72 SPECIAL WEAPONS OFF	B SPARE 3
73 RWI	C JR AIDE/2ND ASST
74 HELICOPTER PAD	D PILOT
75 COMMANDER	E FORWARD
76 TM/SQD/SEC/DET/TK 5	F STAFF ASST
77 CONTROLLER	G ENLISTED ASST
78 AIRCRAFT 4	H ALTERNATE
79 SPARE 4	I MAIN
80 AIRCRAFT 9	J SR AIDE/1ST ASST
81 G5/S5	K DRIVER/RATELO
82 AMMO OFF	L SPARE 1
83 SPARE 1	M SPARE 4
84 TM/SQD/SEC/DET/TK 6	N DEPUTY
85 SPARE 5	O NCOIC
86 G2/S2 AIR	P SPARE 2
87 AIRCRAFT 11	Q OFFICER ASST
88 SPARE 3	R FIRE CONTROL TEAM
89 SAFETY OFF	S OIC
90 RETRANS	T COPILOT

SUFFIXES 2 OF 20 2

Figure 3-4. Example of CEOI Item SUFFIXES.

least daily. It does not provide more frequencies but does allow better utilization. Sample of assignment of frequencies to a net is shown in Figure 3-5.

g. Distribution and Requisition of the CEOI. The CEOI is prepared and published by the Director, National Security Agency (NSA) and shipped direct to the COMSEC custodian of each command.

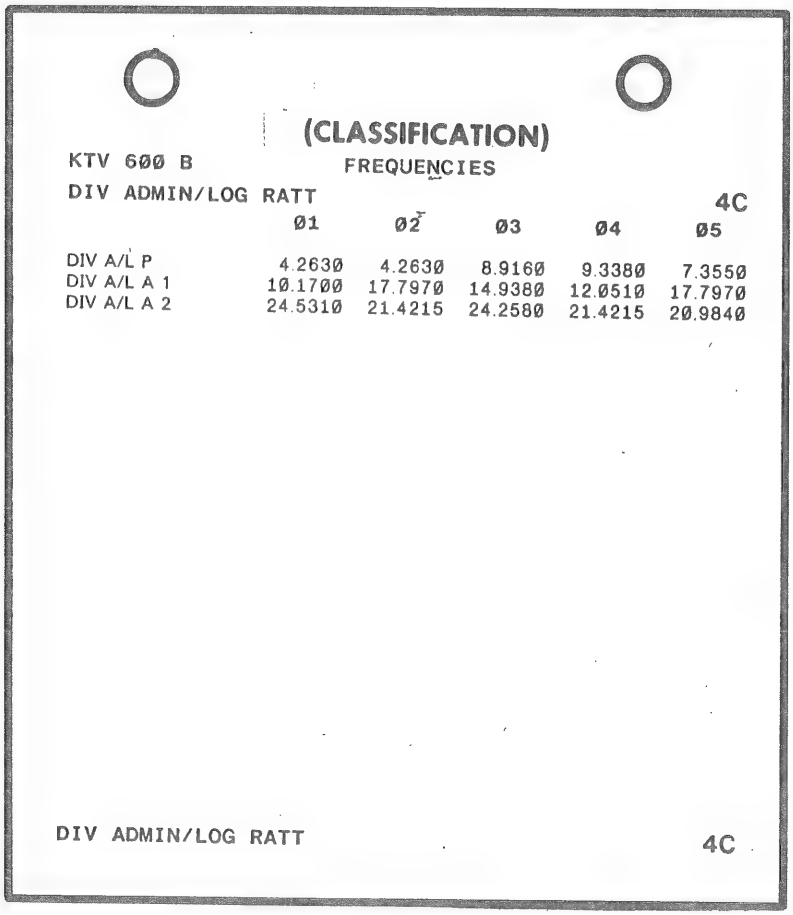


Figure 3-5. Example of CEOI Item FREQUENCIES.

Distribution of the CEOI is limited to those units and individuals who must have them. The C-E officer makes these decisions. Subordinate C-E officers determine the distribution of CEOI items within their units and distribute the CEOI extracts required by their commands or units. Requisitions for normal or supplemental material are sent direct to NSA. Requests for resupply are submitted electrically to the Director, NSA, ATTN: S-14, Fort Meade, Maryland 20755. An information copy of the message is furnished the Commander, US Army Communications Security Logistics Agency, Fort Hauchuca, Arizona 85613. When any change occurs that affects the current CEOI (e.g., changes

to items, copy count, available frequencies, or organizational structure), NSA must be notified as soon as possible in order to have timely change response. Emergency changes in the CEOI which require immediate action (e.g., implementation of contingency plans) may be made in a few days. Routine changes, or changes which may be anticipated or forecasted, will take 90-120 days from the date the data is received at NSA to arrival of the new CEOI at the user account.

h. Reserve Edition. Reserve editions of CEOI items are retained by the controlling authority to insure rapid replacement. When reserve editions are issued, the controlling authority's representative (the C-E officer) will distribute a second edition of the CEOI to all units who have the first edition. The complete reserve edition must be placed in effect, and a third edition should be held in readiness.

i. Physical Security and Compromise. The automated CEOI is classified if its contents require it. Normally, operational and contingency CEOI's are classified CONFIDENTIAL, while administrative or training CEOI's are UNCLASSIFIED to make their handling easier. Those CEOI's classified CONFIDENTIAL or above must be given the physical security safeguards and requirements set forth in DOD 5200.1-R and AR 380-5. The CEOI belongs to the organization it was produced for. Handling procedures that insure its efficient and secure use are the responsibility of the commander. Accordingly, the commander is the recognized controlling authority, and under provisions found in Appendix A of AR 380-5, paragraph A-3b(3), the commander has the authority to use unclassified call sign and frequency change programs for training purposes. To lessen the possibility of unauthorized disclosure, additional physical constraints are necessary. The complete CEOI will not be taken forward of a battalion command post (CP). No more than 10 days material is issued to the user at any time. Authority to reproduce or extract any portion of the CEOI is retained by the controlling authority. The individual in possession of a CEOI, or a portion thereof, is responsible for safeguarding its contents. A thorough understanding of handling procedures established by the unit, combined with good common judgment, will greatly assist in keeping the CEOI away from unauthorized personnel. The CEOI, or any portion of it, is considered compromised when it's lost, captured, exposed to unauthorized personnel, or when the contents are so misused they endanger the security of communications systems.

LESSON 3 REVIEW EXERCISE 5

Complete items 1 through 7.

1. The suffix consists of two numbers, but if the command contains more than ninety-nine users, extender letters are added, such as A, B, C, and so on.

a. True. b. False.

2. A call sign must be used on its effective date and the new call sign can be used with an old frequency in case of an emergency.

a. True. b. False.

3. How often can the call signs, suffixes, and frequencies be changed simultaneously throughout the command?

a. At least every 24 hours.

b. At least every 36 hours.

c. At least every 48 hours.

d. Only when items are compromised.

4. The CEOI is prepared and published by the--

a. Director, Office of Civil Defense.

b. Director, Office of Communications-Electronics.

c. Director, National Security Agency.

d. Director, Department of Defense.

5. The complete CEOI will not be taken forward of what echelon of command?

a. Platoon. c. Battalion.

b. Company. d. Brigade.

6. How many days material of the CEOI are issued to the user at any one time?

a. 5 days. c. 20 days.

b. 10 days. d. 30 days.

7. What Army regulation governs the classification of items contained in the CEOI?

a. AR 380-40.

c. AR 380-5.

b. AR 380-41.

d. AR 380-6.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 5 SOLUTION SHEET PAGE 109.

j. Notification of Compromise. Any individual having knowledge of a compromise, suspected compromise, or loss of a CEOI must advise the controlling authority by the most expeditious means available. It is very important that this information be reported to the controlling authority so that the situation can be studied and contingency precautions implemented. A written report must be submitted within 48 hours after initial report giving complete details and circumstances of the compromise, suspected compromise, or loss.

3-13 TYPES OF CEOI.

Normally, a command will get two types of CEOI materials -- "Training and Operational."

a. Training. Training materials are used when the command is not engaged against a hostile force. Two training editions are held by each command. These editions are unclassified and marked FOR OFFICIAL USE ONLY. They are reused by recycling them within the command until the copies are worn out. In practice "A" supersedes "B", and "B" supersedes "A." Replacement editions for training purposes may be requisitioned by the controlling authority when the material is worn out or when major organizational changes occur.

b. Operational. Operational material will be implemented only when a unit is involved in operations against a hostile force, or when instructions are given the controlling authority. Normally, these editions are held in reserve for operational requirements. Operational material is classified at least CONFIDENTIAL. Resupply is made by NSA as the operational editions are used. In those situations where operational material is used routinely, resupply will be automatic. Otherwise, operational editions are resupplied only when they are requistioned by the controlling authority.

3-14 PRODUCTION OF THE CEOI.

The automated CEOI is prepared and published by the Director, National Security Agency and shipped to the COMSEC custodian of each command. Distribution is handled through armed forces courier service channels. Radio call signs, suffixes, and frequencies are programmed by automated techniques

using data submitted by the using command. This procedure insures that unique letter-number-letter call signs are provided for each tactical unit for which the CEOI is designed. To do this, the C-E officer of major commands furnishes NSA specific input data in accordance with AR 105-64. The input data required is a complete list--

a. Organizations to be assigned call signs.

b. Nets to be assigned frequencies.

c. Frequency assignments.

d. All nets that share, or possibly share, a common site, such as a command post or tactical operations center.

e. All frequencies, in MHz, available to the command for assignment. (Power restrictions imposed on frequencies must also be indicated).

3-15 MANUAL PREPARATION.

A manually produced CEOI may be produced by a command when circumstances are such that an automated version is not available or must be updated. However, the manually produced CEOI must embody the principles of changing call signs, suffixes, and frequencies at least every 24 hours. How is this done? First, contact the command's supporting USASA Signal Security unit and request their assistance. They have prepared, in conjunction with NSA, a randomly generated call sign and suffix computer printout plus standard nonchanging supplemental items to be used by ASA units in supporting Army commands in manual CEOI preparation. It is emphasized, however, that the responsibility for manual CEOI production rests solely on the tactical command which produces the manual system. Figure 3-6 shows a sample computer run of call signs structured in time periods without unit designations. It is this type of information your SIGSEC support unit will provide to eliminate the time consuming process of local generation of call signs and suffixes. The computer run is limited to providing last letter uniqueness only if the using unit's netting requirements do not exceed twenty-six stations. The computer master shown is a sample. A call sign master would contain a randomly generated 30 time period printout displaying twenty-six call signs for 10 time periods on each page.

3-16 ITEM NUMBER IDENTIFIERS - USE OF ITEM NUMBER IDENTIFIERS.

The identification of a unit or station in clear is prohibited. Item number identifiers are included in the CEOI to

(CLASSIFICATION)

KTV 6Ø2 MASTER A CALL SIGNS 12

Ø1	Ø2	Ø3	Ø4	Ø5
Y9X	J9J	T8U	Y2F	G8V
R6A	G4I	09F	E4U	K9R
Q8B	Q1K	N6M	D8H	X50
[illegible]	W3A	A3B	S9G	B8E
I4C	Q7N	U5K	N4Q	A6S
H3T	R9C	GØY	Z9J	C5U
W5R	Z5F	[illegible]	A1B	X7T
D4J	KØB	C3Q	T5D	[illegible]
CØD	S6D	U2R	F1I	A6Z
[illegible]	W1L	B5H	K1A	[illegible]
P4K	C5E	Q4P	A4R	H3C
GØL	B10	C5D	Y7S	Q9J
G9F	P8T	09S	PØK	V9G
X5I	A6P	O7N	GØC	L6B
Q50	Q8X	J5C	G9L	Z4H
D5H	RØG	Q7Z	B4E	E8Q
L5G	Z2H	U3T	XØM	KØL
P6S	R5U	H8I	Y2X	V4A
F6P	Q4I	N5E	H1Z	Q1I
R1Q	X8Q	WØV	[illegible]	G4D
A6U	P3R	Q8J	L70	Q2K
R6V	A4Y	E8L	L8W	[illegible]
Q3W	N4V	D6W	JØP	[illegible]
R7Y	Y8S	CØ0	02T	P7W
A7E	P9W	T5A	R7V	T2X
B7Z	X2Z	I2X	F8Y	G2Y

12

(CLASSIFICATION)

Figure 3-6. Sample computer run of call signs structured in time periods without unit designations.

provide a secure means of identifying your radio net and station. A sample page of item number identifiers is shown in Figure 3-7. Item number identifiers are used when you are entering a net in which you do not normally operate, or to otherwise identify your station. To find your identifier, read down the "Time Period" column until you find your CEOI item number. Then follow that horizontal row to the extreme left-hand column. The two letters found there are your item number identifier for that time period. When asked to identify your station, simply provide your two-letter identifier and the asking station will be able to identify you by referring to the item number identifier list and reading across to the proper time period column. This provides him with your CEOI item number and by referring to that item, he can readily identify your station.

EXAMPLE: The A company commander needs to enter the brigade command net, a net in which he does not normally operate. (For this example the CEOI Item number is 19B for Company A). It is the sixth day of the month and the brigade NCS has a call sign "R7G28." The A company commander has the call sign "T3F07." A correct transmission would sound like this:

"ROMEO Seven GOLF Two Eight," this is "TANGO Three FOXTROT Zero Seven." REQUEST PERMISSION TO ENTER NET -- OVER..." "TANGO Three FOXTROT Zero Seven," this is "ROMEO Seven GOLF Two Eight." IDENTIFY YOUR STATION -- OVER... "ROMEO Seven GOLF Two Eight," this is "TANGO Three FOXTROT Zero Seven" REFER TO ALFA CHARLIE -- BREAK -- I AM PREPARED TO AUTHENTICATE -- OVER..." Refer to Figure 3-7 for the above example. The NCS identifies the calling station, then requests the calling state to authenticate. WARNING: The item number identifier is only a method of identifying a unit. It is not a substitute for authentication.

3-17 TRANSMISSION SECURITY.

Transmission security (TRANSEC) measures are the steps we take to protect transmissions from interception, traffic analysis, direction finding, imitative deception, jamming and other exploitation by the enemy. Any soldier who picks up a microphone, pushes a teletypewriter or telegraph key or uncradles a telephone automatically becomes responsible for taking all measures to get his message through in a manner that does not give away any information that is useful to the enemy.

(CLASSIFICATION)

KTV 600 B 20

ITEM NUMBER IDENTIFIERS

	01	02	03	04	05	06	07	08	09	10
AA	19A	3G	19A	13A	11A	7	9B	9F	13	15
AB	6A	10B	9B	9A	12	19B	8C	7A	4	8A
AC	3H	4C	19D	4D	6	3B	19B	14	9F	10D
AD	8	12A	3F	7B	19D	7B	3A	19A	4D	10E
AE	3A	4A	12A	3B	6C	10E	4D	10B	17B	3
AF	3C	10A	3E	10E	9E	8E	6D	16	10D	19D
AG	3E	4D	7	19D	11	16	3E	9C	11A	11
AH	9F	13	10C	19A	15	3D	9D	8E	17A	3E
AI	7	7C	8D	10C	10B	7D	4B	11B	7B	7A
AJ	6	10C	13	6D	13A	9	5	13	7A	8B
AK	18	3D	16	8A	17B	5	3B	3E	8C	6
AL	17	10E	3	5	9A	9A	13	8C	4C	6B
AM	10C	19C	10	9D	8C	8A	10C	7D	19C	11A
AN	12	12	3D	10A	9C	4B	8B	4D	9C	18A
AO	6B	19B	9A	10	12B	10D	10E	5	14	9F
AP	8D	19	19	3D	3D	17B	3H	10E	9	17C
AQ	9	8E	11A	9	9	14	11B	11	3E	19
AR	7D	15	12	6	17A	19C	19C	3F	3F	9B
AS	3G	9E	9	18A	5	11A	18A	18A	17C	3H
AT	7C	7A	17	8D	10D	4D	9F	17A	9A	18
AU	9B	3A	9F	6C	6A	3H	6A	9E	19A	12B
AV	3F	3B	18A	12	3H	4	8A	9D	3D	16
AW	19B	8C	8B	7A	7C	17A	7	15	6D	3C
AX	10A	18A	14	8	17	8C	3F	19D	13A	17A
AY	5	11A	7A	6A	8B	17	10	17	3	4A
AZ	16	17B	4D	12A	3G	3C	3G	17B	19D	7D

ITEM NUMBER IDENTIFIERS 1 OF 3 20

(CLASSIFICATION)

KTV 600 B 20

ITEM NUMBER IDENTIFIERS

	01	02	03	04	05	06	07	08	09	10
BA	19D	11B	6D	9B	19B	13A	17C	3	3G	17
BB	9E	8D	19C	4A	9F	19A	19	12	10E	5
BC	17B	6A	7D	17B	13	9E	10B	12A	5	3D
BD	9D	6D	6A	16	11B	10C	6	10A	6B	7
BE	10D	3	18	11B	17C	19	19D	10C	12B	8
BF	12B	10D	12B	13	4D	11	18	11A	6	9C
BG	13A	6B	10A	4	3B	7C	15	3D	10B	6D
BH	14	7D	17C	14	3F	9D	3	7B	8	9
BI	12A	6C	3B	7	16	4A	11	17C	4A	11B
BJ	7A	8B	6	7D	4C	3E	12B	3A	9B	10B
BK	8E	12B	7B	4C	8E	10A	10D	7	10C	6A
BL	10	9	3C	10D	19	9F	9E	6	3B	4B
BM	4A	9F	10E	9F	7B	15	6B	3H	18	13
BN	19C	17C	19B	11	18	11B	11A	6B	15	4C
BO	4B	8A	11	17A	10A	3A	4A	9B	9E	8C
BP	18A	7	3H	3F	4B	19D	7C	8B	11	4D
BQ	11	9C	11B	7C	3C	6A	16	6A	3A	4
BR	4D	4	4A	8C	4	6C	17A	4C	12	3A
BS	19	17A	9D	12B	19A	3F	7B	13A	10A	19B
BT	17C	18	8C	3G	8D	6D	17B	19B	7	19A
BU	9C	11	15	6B	10E	13	9	3B	7D	17B
BV	17A	19D	6B	15	8A	4C	8D	18	8A	7B
BW	3	8	13A	3H	7A	8D	19A	8	8E	7C
BX	10B	14	9E	8B	19C	12B	9A	19C	19	3B
BY	15	16	4	11A	6D	6	8E	8D	8D	12
BZ	7B	6	3G	10B	3A	3G	4	6D	3H	9D

ITEM NUMBER IDENTIFIERS 2 OF 3 20

(CLASSIFICATION)

KTV 600 B 20

ITEM NUMBER IDENTIFIERS

	01	02	03	04	05	06	07	08	09	10
CA	8A	3E	17A	19B	18A	12	7A	6C	4B	3F
CB	10E	13A	4C	9C	8	17C	7D	10D	11B	10C
CC	6D	3C	10D	4B	9D	6B	3C	12B	16	14
CD	3D	9D	7C	9E	4A	10B	13A	9	10	19C
CE	11B	7B	8E	8E	12A	8	17	4A	6C	8D
CF	11A	19A	8A	17C	10	18A	12A	3G	7C	8E
CG	4	3H	4B	3C	6B	9C	4C	10	18A	6C
CH	4C	9B	6C	3	10C	12A	14	7C	12A	10
CI	9A	4B	3A	18	7	9B	8	4	9D	3G
CJ	13	9A	8	3A	9B	10	3D	9A	8B	12A
CK	6C	10	10B	17	3E	8B	9C	3C	3C	10A
CL	8B	3F	5	19C	7D	3	6C	19	6A	13A
CM	3B	5	9C	19	3	7A	10A	4B	19B	9E
CN	8C	17	17B	3E	14	18	12	8A	17	9A

ITEM NUMBER IDENTIFIERS 3 OF 3 20

Figure 3-7. Example of CEOI Item Number Identifiers.

a. TRANSEC Measures. Radio operators will maintain TRANSEC at all times by practicing the following measures. They will:

(1) Keep the transmission short.

(2) Follow authorized transmission procedures.

(3) Maintain circuit discipline.

(4) Properly orient the transmitting antenna.

(5) Use a dummy antenna when tuning or maintaining transmitters.

(6) Avoid unnecessary transmissions and excessive testing.

(7) Operate radios at the lowest possible power levels that give satisfactory communications.

(8) Use only authorized call signs, procedure words and signs, and operating signals.

(9) Authenticate as prescribed in the CEOI.

b. TRANSEC checklist. Radiotelephone operators will check and NCS will enforce TRANSEC during every communications period. The TRANSEC checklist will include the following points. The proper answer for each one is "No."

(1) Is radio listening silence being violated?

(2) Is unofficial conversation being exchanged between operators?

(3) Are transmissions taking place in a directed net without permission of the NCS?

(4) Is the operator's personal sign being transmitted?

(5) Are call signs being compromised by their association with plain language unit designations?

(6) Is plain language used instead of authorized prosigns and operating signals?

(7) Are the operators using unauthorized prosigns and operating signals?

(8) Are the operators using unauthorized and incorrect procedures?

(9) Do unnecessary transmissions occur?

(10) Is the identification of units and individuals being disclosed in transmissions?

(11) Are calls being transmitted excessively?

(12) Are transmitting operators sending too fast for receiving operators?

(13) Is excessive transmitting power being used?

(14) Are transmitters being tuned with the antennas connected?

(15) Is excessive time consumed in tuning, testing, changing frequency, and adjusting equipment?

(16) Are authentication requirements and procedures being violated?

LESSON 3 REVIEW EXERCISE 6

Complete items 1 through 7.

1. Once the controlling authority has been notified of a lost CEOI item, how soon should a written report be submitted giving complete details of the circumstances of the lost CEOI?

a. 24 hours.

c. 12 hours.

b. 48 hours.

d. As soon as possible.

2. What are the two types of CEOI's?

_____ and _____

3. Two training editions of the CEOI (A and B) are held by each command, they are reused by recycling them within the command until copies are worn out.

a. True.

b. False.

4. The operational CEOI will be implemented only when a unit is involved in--

a. a command post exercise.

b. operations against a hostile force.

c. operations when a unit is assigned overseas.

d. operations in a joint Army, Navy and Marine training exercise.

5. A manually produced CEOI may be produced by a command when circumstances are such that an automated version is not available.

a. True. b. False.

6. Item number identifiers are used when entering your assigned net to request permission to transmit a message from the NCS.

a. True. b. False.

7. The NCS is the only station in a five-station radio net to use the TRANSEC checklist.

a. True. b. False.

CHECK YOUR ANSWERS WITH LESSON EXERCISE 6 SOLUTION SHEET PAGE 109.

3-18 NUMERAL CIPHER AUTHENTICATION SYSTEM.

a. The most widely used numeral cipher system today is called DRYAD. DRYAD includes a reader guide KAL-61 plus a daily numeral cipher insert. See Figure 3-8 example of KAL-61. This system is provided by your COMSEC material direct support activity. (CMDSA). Instructions on how to use this system are contained in the CEOI Figure 3-9 example of item. The DRYAD system is used to encode only numbers and coordinates in a plain text message or with a brevity list. When operations codes are used, the entire message must be encoded. The number of daily inserts issued to the user is kept at a minimum, not to exceed 8 day's worth of material.

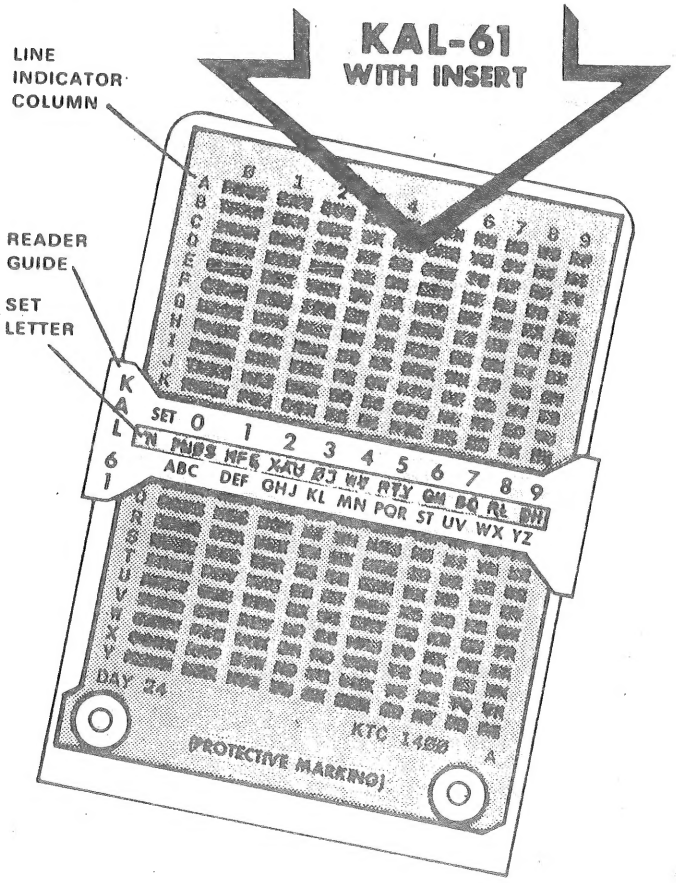


Figure 3-8. Example of KAL-61 (with insert).

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1. The numeral cipher/authentication system will be issued through COMSEC channels to units having authorized COMSEC accounts. Unit COMSEC Officers will establish accounting procedures in accordance with current regulations and coordinate timely resupply.

2. The amount of keying material issued to users will be kept to a minimum (not to exceed ten cryptoperiods). Individual pages of keying material will be marked with the register number of the basic document when removed from the basic document.

INSTRUCTIONS

1. GENERAL.-The numeral cipher/authentication system is used to encrypt numbers and grid zone designators and for authentication. If an entire message must be encrypted, the operations code will be used.

2. ENCRYPTION.

a. Randomly select any two letters (except Z) for the SET INDICATOR (SI). Example: CP.

b. Find the first letter of SI ("C") in LINE INDICATOR COLUMN.

c. Find the second letter of SI ("P") in the line indicated by first letter. The letter to the right of second SI letter is the SET LETTER. (NOTE: If second SI letter is last letter on the line, go to the first letter in the same line for the SET LETTER.) Position the reader guide over the line indicated by the SET LETTER.

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d. Find the number to be encrypted in the plaintext numbers on the top of the reader guide. For each number, substitute one of the cipher letters from the SET LINE directly below the plaintext number. (NOTE: Use the cipher letters from the SET LINE to encrypt the numbers; do not use the letters on the lower half of the reader guide.) Numbers are encrypted in the order they appear in the message. Variants should be used for repeated numbers. Transmission will be in the form "I SET CHARLIE PAPA (pause) ROMEO NOVEMBER ALFA MIKE."

3. ENCRYPTION OF GRID ZONES.-To encrypt grid zones, locate the grid zone designator letters in the plaintext letters on the lower half of the reader guide. The cipher letter found in the SET LINE directly above the plaintext letter is substituted for the grid zone letter. No other letters will be encrypted. Grid coordinate numbers will be encrypted in the same manner as other numbers.

4. DECRYPTION.-Upon receipt of the SET INDICATOR, find the SET LETTER in the manner described under encryption (para 2b and c). Set the READER GUIDE on the line indicated by the SET LETTER and decrypt by substituting plaintext numbers (or grid zone designator letters) for the cipher letters.

5. CHALLENGE AND REPLY AUTHENTICATION.-When authentication is required or desired (note the Authentication Instructions in this CEOI), the CALLED party should challenge first. After giving the appropriate reply, the calling party will then counter-challenge.

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NUMERAL CIPHER/AUTHENTICATION SYSTEM

a. To form a challenge, select two letters (except Z) at random.

b. To determine the reply, find the first letter of the challenge in the LINE INDICATOR column. Find the second letter in the line indicated by the first letter. The reply is the cipher letter directly below the second letter of the challenge. (NOTE: If the first letter of the challenge is "Y", the reply should be taken from the "A" line of the table.)

6. TRANSMISSION AUTHENTICATION.-Ten columns of transmission authentication digraphs are located on the back of each cipher table. Column assignments are made by the Controlling Authority or his designated representative. Transmission authentication is used *ONLY* in cases where authentication is required and it is not possible or desirable for the receiving station to reply. Transmission authentication digraphs should be used only once. When necessary to use transmission authentication, the first unused authenticator in the assigned column will be used, and a line will be drawn through that authenticator to preclude its reuse.

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AUTHENTICATION SYSTEM 3 of 3 117

Figure 3-9. Example of Numeral Cipher/Authentication System.

b. Instructions for Using KAL-61 (Figure 3-9).

To encrypt a message--

randomly select any two letters (except Z) for the SET INDICATOR (SI). Example CP: Find the first letter of SI ("C") in line indicator column (See Figure 3-10). Find sec-

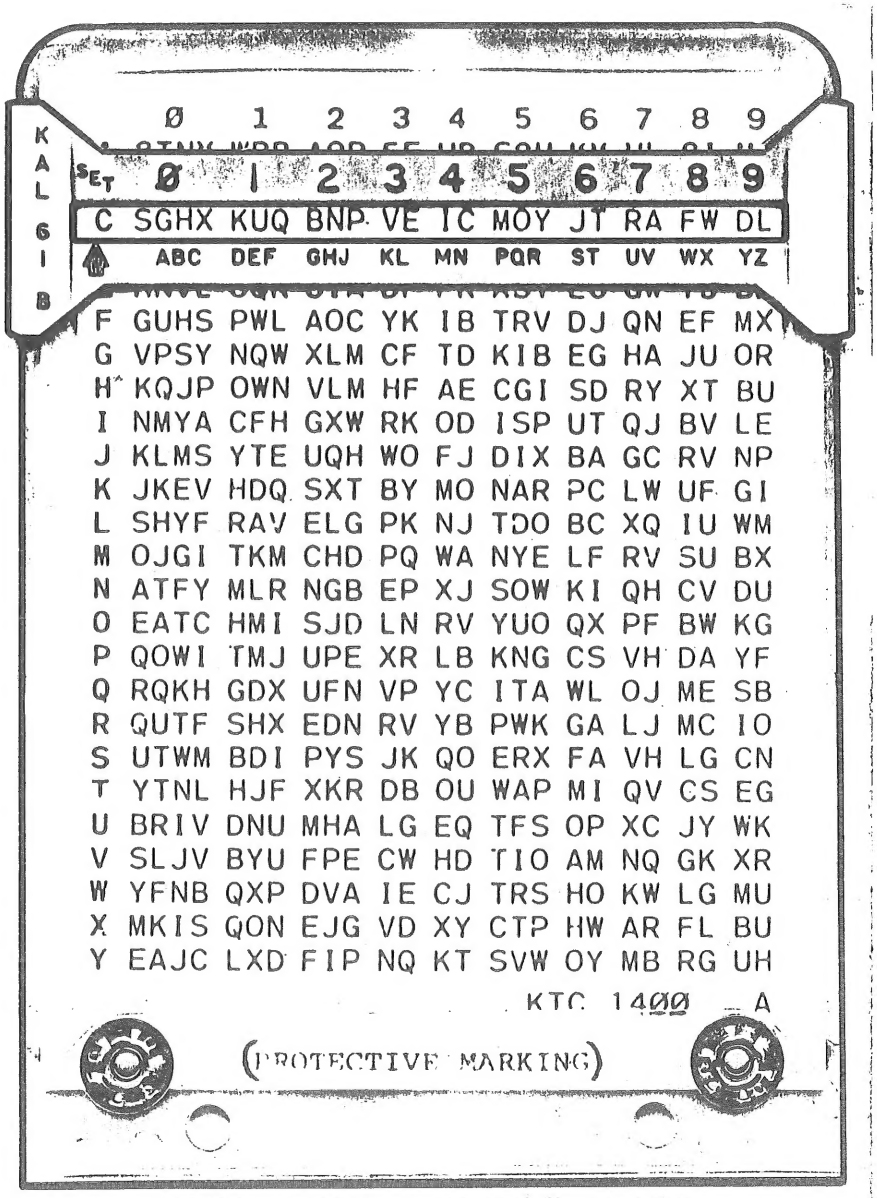

Figure 3-10. KAL-61 (1st setting).

ond letter SI ("P") in line indicated by first letter. Letter to the right of the second SI letter is the set letter (in the example is Victor "V", See Figure 3-10). (NOTE: If second SI

letter is the last letter in the line, go to the first letter in the same line for the set letter. An illustration using Figure 3-10 shows the last letter being "L," then go to the first letter of that line which is "S" and the letter to the right of "S" is "G," so in this case the SET LETTER would be "G"). Position the reader guide over the line indicated by the SET LETTER ("V") as shown in Figure 3-11.

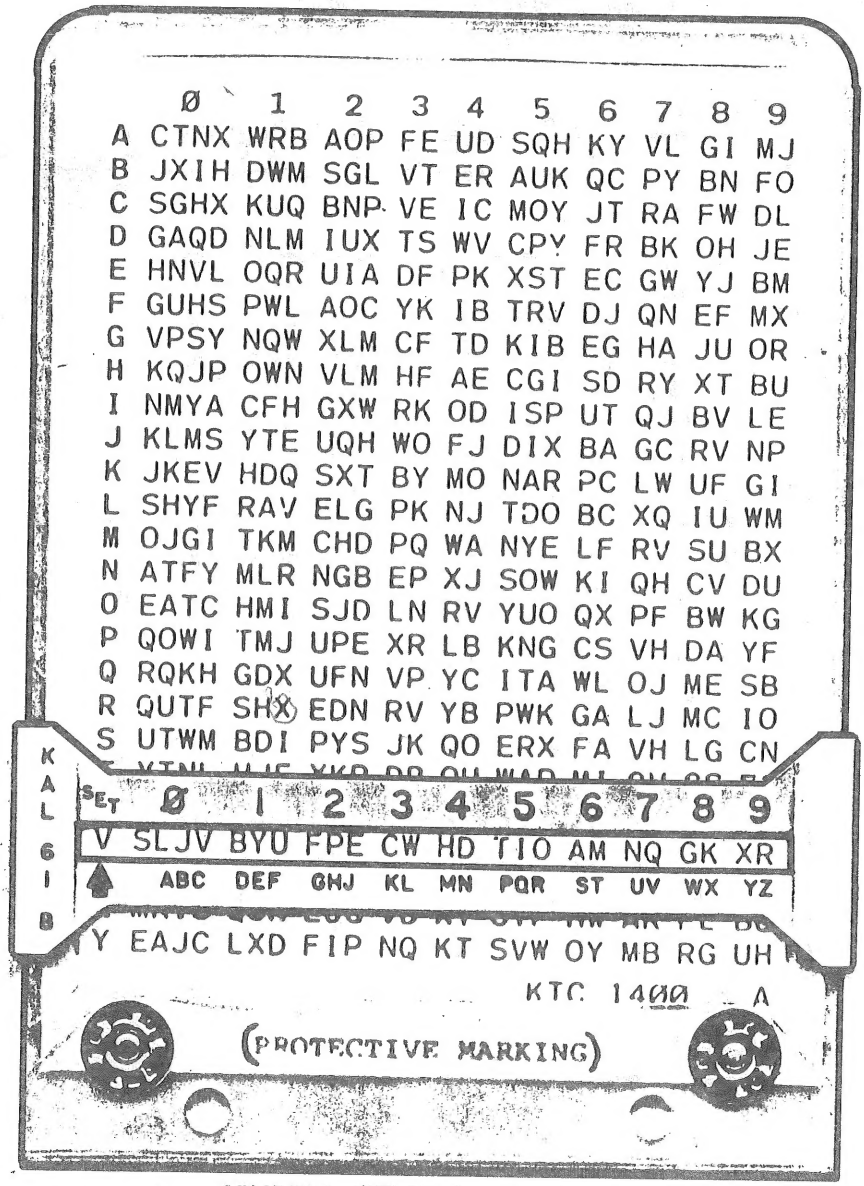

Figure 3-11. KAL-61 (2d setting).